AMERICAN AGRICULTURIST

FOR THE

Farm, Garden, and Household.

"AGRICULTURE IS THE MOST HEALTHFUL, MOST USEFUL, AND MOST NOBLE EMPLOYMENT OF MAN."—WASHINGTON.

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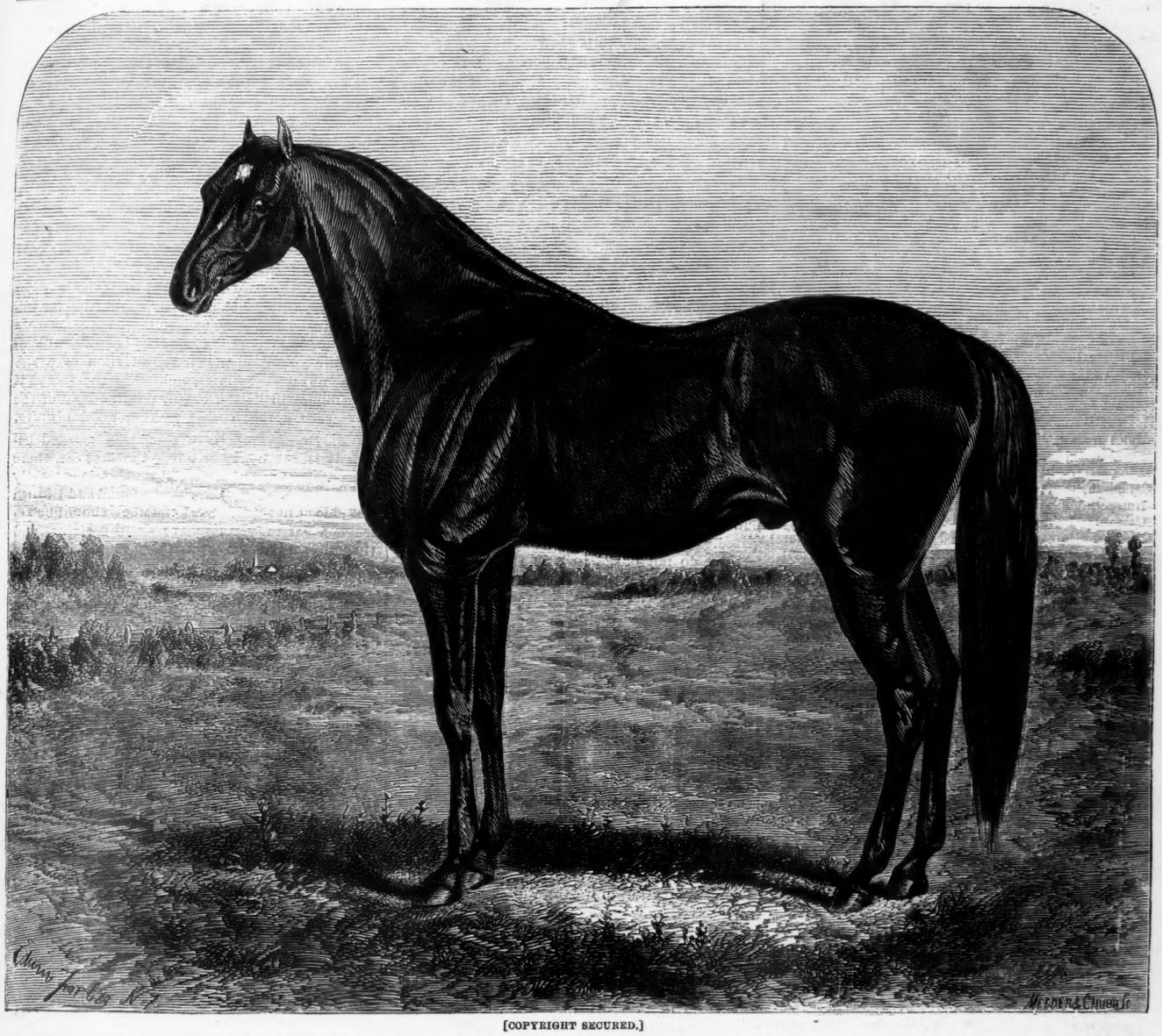

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"CASSIUS M. CLAY, JR."—FROM A PAINTING PAINTED BY EDWIN FORBES.—*Drawn and engraved for the American Agriculturist.*

The magnificent horse whose portrait we here present is perhaps as good a type of the American trotter of the present day as could be selected in the whole country. He is high bred, reckoning his pedigree from some of the most famous thoroughbreds and getters of trotting stock ever in the country. His sire, Cassius M. Clay (also sire of Geo. M. Patchen), and his grandsire, Andrew Jackson, were famous trotters. The last combined two strains of Messenger blood, and his sire, Young Bashaw, was famed as a getter of trotting stock. On the side of the dam, also, C. M. Clay, Jr., receives another strong dash of Messenger blood, his grandsire Chancellor being by Mambrino, son of Imported Messenger. He is of a rich brown color, nearly 16 hands high. His legs are clean and flat, his shoulders sloping, chest deep, and back short. He has powerful hind quarters, and a fine, graceful carriage, hightened by a beautifully set on head, and a fine flowing mane and heavy tail. The eye is remarkably full, and his hoofs are round and solid. He is now owned by that enterprising firm, R. S. Strader & Co., of Bullittsville, Ky., and is the sire of a number of horses already famous, and of others who are promising candidates for high honors upon the turf. S. T. H., in the Turf, Field and Farm, says that "all of his colts that have been trained have shown themselves worthy of their lineage in size, color, bottom, and speed," and that "even his grandsons, like those of Old Hambletonian, are showing fine promise." This noble animal combines more useful qualities than it is common to find—a near approximation to perfection in form, with large size, great power, great fleetness, perfect trotting action, remarkable endurance, and a good constitution. These are characteristics we cannot too assiduously cultivate in all kinds of horses, and they should always, if possible, be combined with a docile and kindly disposition.

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AMERICAN AGRICULTURIST.

NEW-YORK, SEPTEMBER, 1869.

Work will vary with the weather. If we have a moist time the opportunity should not be neglected to have the plowing done early, and then to kill several crops of seedling weeds with the harrow. If the weather is hot and dry, no better time can be found for burning weeds along stone walls, or cutting and drying those in the field or in the meadow that are in seed. If the fall work that can be done at this season is finished, look to the swamps and to the draining of boggy ground where too much water stands in ordinary seasons. Rainy-day work is plenty. There is grain to thrash and prepare for market—peas and beans also; the corn-house to put in order, and apparatus for grinding and cooking pig feed. Withal save time to attend the fairs, and by all means exhibit something.

Hints About Work.

Apples.—Windfalls are full of worms, usually. Pick them up regularly, and feed to the pigs all not fit for cider, or at least for vinegar.

Field Crops.—Beans should be pulled as soon as the pods seem well matured. They will cure in a loft better than in the field, and a few may be cured on a barn floor. In the field, stack them between stakes to keep off the ground and thrash when dry.

Potatoes.—Dig as soon as ripe—provided there is not much rot among them—in which case use judgment. If they can be dug and sold before they rot much, well; if they can be fed with profit, do so. Do not put them into the cellar to become a mass of corruption, and make it necessary to overhaul and throw them away by and by.

Corn.—Pulling corn fodder is a Southern practice, which we do not approve of. If it seems best to pull leaves this year, do not do it until the grain is glazed. *Topping* is much less objectionable—in fact, we do not object to it in the case of large, coarse-stalked varieties. This, too, should never be done until the glazing of the kernel shows that the grain has its full size. No doubt it is a damage to the corn, but there is proportionate gain in the feed, which is very valuable. *Cutting up at the ground* has much in its favor. The field is as good as cleared at one operation, and may be plowed and sown at once if desired—provided the stooks are made on as few lines as possible, standing very close. Taking twenty-five rows the longest way through the field, it is no very great labor to close on the middle row, taking twelve hills on each side, and so make a stook to every hill on this row—leaving plow lands of one hundred feet or thereabouts in width, which should be plowed "inward," or "right about." The grain must be well glazed before the stalks are cut. It loses scarcely perceptibly in weight, while the stalks and leaves are saved. One day's or half a day's drying after being cut up will save the fodder from injury from severe frosts, which would otherwise render it flavorless and of little value as fodder.

Corn Fodder.—Cattle and horses will eat corn leaves and husks well; they will eat almost the whole of the toppings, but unless it is cooked they will not eat all the but stalks. However, if cut up and soaked, they will eat a good portion of them, especially if dusted with a little meal or oil-cake. What they refuse is worth, we presume, half as much as manure as it would be if eaten. The immense waste of feeding corn fodder on the ground is, that but a comparatively small part is eaten, and the rest is utilized as manure to but a small extent. Corn fodder, sown for the purpose, should be cut as close as possible, bound in small bundles, with new rye straw, and set up against rails laid on crossed stakes, or in crotches against a fence, or in open shooks, to dry. It will not mould enough to hurt it unless it lies long flat upon the ground.

Roots.—Beets, carrots, parsnips, and turnips, make astonishing growth this month. Keep them clear of weeds, which sap the very life of the soil. It is an excellent plan to run a one-horse subsoil plow between the rows. If crowded, roots of all kinds may be thinned to advantage, and the surplus sent to market or fed to stock. Hogs will grow fast on the diet, though it is not very fattening.

Grass.—If the aftermath is to be cut, do it in this month, and, if you can, manure with fine compost or some "hand manure" afterwards. This gives a chance for a good covering to grow, to protect the roots of the grasses from the winter. If the second growth is to be fed off, it is economy to tether the cows. The writer tethers with chains, using iron fetters to attach them to one hind leg. If the fetters fit, there will be no wearing of the skin after a few days. Change from leg to leg daily. The cows need water three times a day, and to have the stakes or rods shifted according to the abundance of the feed, giving them six feet or more advance at each shift. See that the cows cannot get together and become twisted up. The twisting up, and turning around trees, etc., are the only accidents that can happen to cows tethered by the leg. Tied by the neck, they may hang themselves as easily as not, and often do, in an open field. New grass land and stubble should not be fed off too soon or by heavy animals of any kind.

Seeding down.—Grass may be sown alone at this season, or a little earlier perhaps, better than at any other. Prepare the ground well, giving thorough harrowing and top-dressing, picking off the stones; sow the seed, and roll. A bushel of oats harrowed in before the grass seed is sown, will afford the young plants the protection of a fine mulch during the winter, and unless the season is very mild, will be thoroughly dead and out of the way when spring comes, making good manure.

Saving Seed.—Seed corn should be marked before it is cut up, by selecting the best ear where two or more are on a stalk, and tying strings tightly around them. They will thus be found and thrown one side at husking. Seed potatoes should be selected from those that have healthy stalks, and ripen first. It is very well to go through and dig from hills before the general digging. If the whole crop is to be saved for seed, or if it is desirable to keep it pure, go through carefully, and dig any suspicious or peculiar looking hills. Seed of all kinds should be kept where it is dry, in nets, baskets, loosely covered pails, or in net bags, or tied together and suspended. Close vessels are often fatal to seeds, causing them to mould or heat.

Winter Grain.—Wheat.—The land should be put in order, well manured on the surface, harrowed to a fine tilth, and the seed sown as early as possible this month. Use any fine, rich, well-rotted compost. Peruvian guano, fine bone-dust, and almost any good fertilizer, containing both ammonia and phosphoric acid, will pay. Soaking the seed in a strong brine and drying with dry slaked lime prevents smut to a great degree. Pickling enables one also to skim off and separate many of the light grains which the fan-mill leaves....*Rye* may be sown the latter part of the month, but is usually sown in October, as sometimes it makes too rank a growth, and is smothered thereby in the course of the winter. Much depends on the land.

Buckwheat is greatly injured by even a light frost. Be prepared to cut and put in little cocks or gavels as soon as frost threatens. The tops should be gathered and bound at the top, more to prolong the drying and to prevent the wind scattering the grain, than to make the little gavels shed rain. Many kernels, half formed when cut, will fill out at the expense of the juices of the haulm.

Sorghum.—This crop is one of great importance, especially with present facilities for working it up. It should be topped, cut up, stripped and stacked before frost, to be hauled to the mill and worked up before hard freezing weather.

Live-stock of all kinds require good feeding, for they lay on flesh and fat much more readily in mildly warm weather than when it is colder, in cool weather better than in cold, and when severe weather comes, it is almost impossible to make

cattle and hogs hold their own unless warmly sheltered. Animals in good condition are easily maintained so, unless exposed to great cold, for they are already as if well blanketed. Horses and sheep bear vicissitudes of weather better than other stock if they have enough to eat, but if either is allowed to run down, it is hard to get them up again.

Hogs.—Feed old corn (ground) if you have it,—it gives them a splendid start. Grind and cook all grain fed to swine if you would get the full benefit of it. There is a difference of 25 per cent in favor of grinding alone, and we doubt not nearly or quite as much more in favor of cooking. However, there is probably little loss in feeding "nubbins" and soft corn whole, if fed early, and it makes a relishable variety. A few handfuls of charcoal mixed with some ashes and a little sulphur, makes an excellent tonic and regulator for almost any kind of stock, and especially for swine. It will be eaten readily if a little meal be thrown upon it. The prospect is that grain of all kinds will bear a low price, and the best way to get our money's worth will probably be to have the pork fattened early, and held ready to kill or market.

Beeves that are to be ripened off and marketed this fall should be early in condition to sell, and held ready for shipment at the shortest notice.

Work in the Horticultural Departments.

Now is the month of the harvest, and each one should show what he has been doing. Take the best of the products to the County fair. If a neighbor has something better, talk with him and learn how he produced it. Do not think it is necessary to carry Duchess pears or prize dahlias, but if you have a squash, cabbage, or anything that seems good to you, take it to the fair and see who produces better and how he does it. Take the best fruits of the orchard, kitchen garden, and flower garden, and help make up a show, whether competing for a premium or not. The best show of fruits we ever saw was one in which no premiums were awarded. It must be a poor orchard or garden which does not produce one thing worthy of being looked at by others.

Orchard and Nursery.

Planting.—Where the autumns are mild, by all means plant all hardy trees in autumn, except stone fruits, which do not seem to do so well. It will be a month or more yet before trees can be obtained from the nurseries, but now is a good time to prepare the soil for them. Put on a plenty of the best manure, and plow and subsoil until the whole is as well prepared as for a garden.

Order trees early from the nurseries. All the State Societies publish lists, but these need modifications to suit particular sections. Plant chiefly of the sorts known to succeed in your neighborhood, and try others which promise well. If planting for market, have but few varieties, and those of productive and marketable sorts.

Picking and Packing of autumn fruits require considerable judgment. They must be taken from the tree when fully matured, and yet before they have begun to mellow. This is especially the case with autumn pears, which ought always to reach the retailer before they are in eating condition. The fruit will give better satisfaction to the consumer, and the shipper will be saved much loss. In packing apples use new barrels; open the bottom of the barrel and place in a layer of good fruit with the stems towards the head, or downwards; then fill in with fruit properly packed, and put the bottom head on with pressure, so that there will be no shaking.

Fallen Fruit is of as much importance, in one respect, as that which is picked; it usually contains insects, and should be gathered regularly. The best use to make of fallen apples is to grind, press, and make vinegar of them. If sufficient care can be given, the sound part of such apples and pears may be cut out and dried or preserved.

Drying Fruit is treated of on page 340. Much of the drying is done in the open air by sun heat. Where this is the case, it will be found to be a great help to have a room which can be readily heated by a stove, to which the fruit can be removed on a damp day, or during a rainy spell.

Budding.—Examine the stocks which have been worked, and if the bandages are too tight, loosen them. In many cases it is not too late to re-bud if the bark will "run." Quince stocks and peaches are usually in good condition this month.

Nursery Trees may be pruned to bring them into proper shape, and their growth improved by

Manuring.—This is done by opening a shallow furrow between the rows, placing in it a well-prepared compost, and covering it again with the plow.

Seeds, of all the stone fruits especially, must not be allowed to get dry. Mix peach, plum, and such seeds, with sandy earth, and at the proper time they should be exposed to frost.

Fruit Garden.

In most localities fall planting is to be recommended, at least for all places having the warm and long autumn of the vicinity of New York. A rich, deep soil is to be secured by previous preparation.

Blackberries are sufficiently treated of on page 339.

Raspberries require similar treatment, in regard to pruning, as blackberries. Some kinds throw up an abundance of suckers, which should not be allowed to grow unless more plants are needed.

Black-caps, it should be understood, propagate by the rooting of the tips of the canes only. Ordinarily, they do this without any attention, but if winds prevent the tips from taking root, throw only enough earth upon them to hold them in place.

Strawberries.—Keep beds planted this fall clear of both weeds and runners. Runners started in pots may be put out at any time, as may those which have to be carried but so short a distance that their roots will not get dry. It is not advisable to get plants from a distance at this season unless in pots.

Grapes.—Use scissors in gathering, to avoid injuring the bloom. The early varieties are picked for market as soon as they color

Kitchen Garden.

Clear away all old stuff, such as spent crops of beans, and whatever may be cumbering the ground without profit. Plow in manure, and prepare for the winter crops.

Beans.—String beans are to be gathered and salted for winter use. The Limas will now be in perfection. If there are more than will be needed, shell and dry them for winter; when frost comes it will be too late.

Cabbages and Cauliflower.—The time for sowing seed for winter plants in the neighborhood of New York is from the 10th to the 20th of the present month. Sow the seeds in the open ground in a well-prepared bed. The Early Wakefield is the favorite with us, but the Fottler and others will contest the superiority with it. Keep the seed beds well weeded, and sprinkle lime upon the plants if the "flea" appears.

Borecole or Kale, more popularly known as "sprouts," is to be sown this month. See page 339.

Corn should now be dried for winter use. Some prefer to salt it. It is cut from the cob without boiling, and packed in a jar with salt.

Cucumbers.—Gather those for pickles at least every other day. See page 339.

Celery.—Earth up, as may be required, that grown in trenches. Celery grown in flat culture is to be earthed up only about ten days before it is required, and the crop for winter is left until later.

Endive.—Blanch as required, either by placing mats over it or by tying. An old gardener, a neighbor of ours, prefers tying, not at the tips, but about half way down the leaves.

Melons.—By this time it will be easy to tell which will ripen. Pick off the rest and use for mangoes. At any rate it is better to remove them.

Onions.—See that they are thoroughly cured before storing, and then they should be in such thin layers or such small packages that they cannot heat. Onion sets, as well as top onions, are to be spread thinly in a cool loft.

Radishes.—Sow the winter varieties, especially the Chinese Rose-colored Winter.

Shallots.—The majority of the young onions sold in our markets in early spring are shallots. These are set this month, placing the little bulbs six inches distant, in rows a foot apart. Keep clear of weeds as long as the ground can be worked.

Spinach.—The crop to winter over is sown about the 10th of the month in the latitude of New York. The rows are 12 to 15 inches apart. When the plants come up, thin and weed them.

Sweet Potatoes.—When the first frost touches the vines, dig them. It often happens that a "mess" can be filched from the rows by carefully feeling in and taking out the longer roots before it becomes necessary to dig.

Tomatoes.—Make catsup and can while the fruit is at its best. Later, it is poor and watery stuff. The large green "worm" will still depredate upon foliage and fruit, and will need crushing.

Turnips.—No plant better repays good culture than the Ruta-baga or Swedes turnip. It should be thinned so as to have room to grow, and then be encouraged by frequent hoeings. A little good phosphate helps it wonderfully. Round turnips may still be sown and make a crop.

Winter Cherry.—Pick the fruits as fast as they ripen, and use them for preserves, or spread them for winter use.

Manure.—Accumulate from all available sources. Use all the garden refuse and all weeds which have no ripened seeds; these, stratified in a heap with stable manure, will give a splendid compost.

Flower Garden and Lawn.

Chrysanthemums will now need stakes. They give such a gay appearance to the garden a month or more later that they should now have proper care. Pot those intended for blooming indoors as soon as the buds are well formed.

Cannas.—A correspondent informs us that if the finer kinds are allowed to be touched by frost before the roots are lifted, he has great difficulty in preserving them through the winter; therefore, with all but our common *Canna Indica*, it will be safest to take up the plants before the frost injures them, lay them under a shed, and allow the roots to mature.

Dahlias should now be in their prime. Tie them to stakes as needed, and put in auxiliary ones for the branches. Remove all misshapen buds, and the flowers as soon as they have lost their beauty.

Herbaceous Perennials may, many of them, be lifted and divided this month, especially those which lose their foliage early. Pæonies can only be successfully removed in autumn. Sow seeds of such perennials as ripen now, and they will make plants which, with a little protection, will pass the winter safely, and will bloom next year.

Bulbs of the spring-blooming kinds, such as hyacinths, tulips, etc., which were taken up earlier in the season, may be reset the last of this month or early next. If purchases are to be made, procure a supply as soon as the dealers receive their bulbs.

Pits and Cellars are much in requisition for wintering half hardy plants. A brick pit will keep many things through the winter which are ordinarily put into a green-house, and a dry, frost-proof cellar, which is well lighted, will preserve the plants about as well as a pit.

Green-house and Window Plants.

Green-houses and their heating apparatus should be put in thorough repair, as it is very annoying to have work going on after the plants are taken in.

Plants in Pots, whether they are to go into the green-house or the window, should be looked to. They must not be allowed to suffer from dryness.

Hanging Baskets, so pleasing in winter, may be planted now to get a good start. Use plenty of ivy, which bears transplanting at any season, as does the money-wort. *Cuphea platycentra* is capital as a centre piece.

Bulbs for winter blooming may be potted if they are at hand or can be obtained. After the bulbs are put in, plunge them in dry earth, or cover with coal ashes until time to start them.

Cuttings of bedding plants may be made for a winter stock.

Annuals, which are desirable for winter blooming, may be sown. Candytuft and Mignonette are always in requisition.

The Fairs for 1869.

State and National Fairs.

American Institute	New York City	Sept. 8-Oct. 30
Am. Institute, Wool	New York City	Sept. 1-8
Alabama	Selma	Sept. 9-11
Arkansas	Little Rock	Oct. 19-22
Cherokee Country, (Ga. & Ala.)	Rome, Ga	Nov. 3-6
California	Sacramento	Sept. 6-10
Georgia	Macon	Nov. —
Illinois	Decatur	Sept. 27-Oct. 2
Indiana	Indianapolis	Sept. 27-Oct. 2
Iowa	Keokuk	Sept. 14-17
Kansas	Lawrence	Sept. 7-10
Kentucky	Louisville	Sept. 14-18
Maine	With New England, which see.	
Maryland	Pamlico, n. Baltimore	Oct. 26-29
Michigan	Jackson	Sept. 21-24
Minnesota	Rochester	Sept. 28-Oct. 1
Mississippi	Jackson	Oct. 25-29
Missouri	Oregon	Sept. 15-17
Nebraska	Nebraska City	Sept. 28-Oct. 1
New England	Portland, Me	Sept. 7-10
New Hampshire	Manchester	Sept. 7-9
New Jersey	Waverly	Sept. 21-24
New York	Elmira	Sept. 14-17
New York State Poultry Soc.,	New York City	Dec. 2-12
North Carolina	Raleigh	Oct. 19-22
Ohio	Toledo	Sept. 13-17
Ontario (Canada)	London	Sept. 20-25
Oregon	Salem	Oct. 11-16
Pennsylvania	Harrisburg	Sept. 28-Oct. 1
San Francisco Mech. Inst.,	(Cosmopol'n Fair) beg.	Sept. 14
St. Louis	St. Louis, Mo	Oct. 4-9
Tennessee	Nashville	Oct. 18-23
Vermont	Burlington	Sept. 14-17
Vermont Wool Growers' Ass'n.	Burlington	Sept. 14-17
Virginia	Richmond	Nov. 2-5
Wisconsin	Madison	Sept. 27-Oct. 1

Horticultural and Kindred Fairs.

Am. Pomological Soc.	Philadelphia, Pa	Sept. 15-17
Penn. Hort. Soc.	Philadelphia, Pa	Sept. 15-17
Ohio Grape Growers' Ass'n.,	Lancaster	Aug. 25-26
Lancaster, O., Hort. Soc.		Aug. 25-26
Mass. Hort. Soc	Boston	Sept. —
Newburgh Bay Hort. Soc.,	Newburgh, N. Y.	Sept. 29-30
Cincinnati, O., Hort. Soc		Sept. 7-9
Pleasant Valley, Grape,	Hammondsport, N. Y.	Sept. 28-30
Worcester Hort. Soc.,	Worcester, Mass	Sept. 21-24
Knox's Grape Show	Pittsburgh	Oct. 6
Iowa Hort	Keokuk	Sept. 14-17
Missouri Hort	St. Louis	Sept. 8-10
St. Joseph Hort. Soc	St. Joseph, Mo	Sept. 14-16

County and Local Fairs.

MAINE.

E. Kennebec	China	Sept. 28-30
Orland and Buckport	Orland	Oct. 7-8
Waldo Co	Belfast	Oct. 12-14

NEW HAMPSHIRE.

Cheshire Co	Keene	Sept. 28-29
Contocook Valley	Hillsboro Ridge	Sept. 21-22
Hillsboro Co	Milford	Sept. 14-16
Merrimack Co	Concord	Sept. 30-Oct. 1
Piscataqua Co	Portsmouth	Sept. 21-23
Suncook Soc	Pittsfield	Sept. 21-23
Stratford Co	Great Falls	Sept. 14-16

MASSACHUSETTS.

Barnstable	Barnstable	Oct. 5-6
Bristol	Taunton	Oct. 5-6
Bristol Center	Myrick's	Sept. 16-17
Berkshire	Pittsfield	Oct. 5-7
Essex	Newburyport	Sept. 28-29
Franklin	Greenfield	Sept. 23-24
Housatonic	Great Barrington	Sept. 29-Oct. 1
Hampshire, Franklin and Hampden	Northampton	Sept. 30-Oct. 1
Hampshire	Amherst	Sept. 28-29
Hampden	Springfield	Oct. 5- 6
Hampden, East	Palmer	Oct. 12-13
Highland	Middlefield	Sept. 9-10
Hingham	Hingham	Sept. 28-29
Hoosick Valley	North Adams	Sept. 21-22
Marshfield	Marshfield	Sept. 30-Oct. 1
Middlefield	Middlefield	Sept. 9-10
Middlesex	Concord	Sept. 30-Oct. 2
Middlesex, North	Lowell	Sept. 22-23
Middlesex, South	Framingham	Sept. 21-22
Martha's Vineyard	West Tisbury	Oct. 19-20
Nantucket	Nantucket	Sept. 29-30
Norfolk	Dedham	Sept. 16-17
Plymouth	Bridgewater	Sept. 23-24
Union	Blandford	Sept. 15-16
Worcester	Worcester	Sept. 16-17
Worcester, West	Barre	Sept. 23-24
Worcester, North	Fitchburg	Sept. 28-29
Worcester, N. West	Athol	Sept. 14
Worcester, South	Sturbridge	Sept. 30
Worcester, S. East	Milford	Sept. 28-29

VERMONT.

Addison Co	Middlebury	Sept. 14-16
Caledonia Co	St. Johnsbury	Sept. 30-Oct. 1
Conn. River	Brattleboro	Sept. 7-9
Orange Co	Bradford	Oct. 5-7
Orleans Co	Barton	Sept. 28-30
Rutland Co	Rutland	Sept. 29-30
Stratford Co	Great Falls	Sept. 14-16
Washington Co	Montpelier	Oct. 6-7
Wardsboro (Town Fair)	Wardsboro	Oct. 14

CONNECTICUT.

Fairfield Co	Norwalk	Sept. 28-Oct. 1
Hartford Co	Hartford	Oct. 5-8
Middlesex Co	Middletown	Sept. 28-Oct. 1
Poultry Show	New Haven	Nov. 9-11
Ridgefield	Ridgefield	Sept. 21-24

NEW YORK.

Albany Co	Albany	Sept. 27-Oct. 1
Chautauqua Co	Fredonia	Sept. 28-30
Delaware Co	Walton	Sept. 14-16
Delhi (Town)		Sept. 29-30
Dryden Union		Sept. 23-24
Duchess Co	Washington Hollow	Sept. 14-17
Genesee Co	Batavia	Sept. 15-16
Gouverneur (Town)		Sept. 8-10
Hamilton Ass'n	Hamilton	Sept. 22-23
Herkimer Union	Richfield Springs	Sept. —
Hudson (Town)		Sept. 21-23
Lenox Ass'n	Oneida	Sept. 30-Oct. 2
Orange Co., Horse	Goshen	Sept. 1-2
Oneida Co	Rome	Sept. 27-30
Oswego Falls (Town)		Sept. 21-23
Otsego Co	Cooperstown	Sept. 14-26
Queens Co	Mineola, L. I	Sept. 29-Oct. 1
Rockland Co	New City	
Saratoga Co	Saratoga	Sept. 7-10
St. Lawrence Co	Canton	Sept. 14-16
Schoharie Co	Schoharie	Oct. 5-7
Trenton (Town)		Sept. 22-24
Warren Co	Glens Falls	Sept. 21-23
Washington Co	Salem	Sept. 29-Oct. 1
Westmoreland Co	Hampton	Sept. 22-24
Westchester Co	White Plains	Sept. 6-11

NEW JERSEY.

Cumberland Co	Bridgeton	Sept. 22
Gloucester Co	Sweedesborough	Sept. 22-23
Hunterdon Co	Flemington	Sept. 28-30

PENNSYLVANIA.

Blair Co	Hallidaysburg	Oct. 5-7
Bucks Co	Newtown	Sept. 28-30
Chester Co	Westchester	Sept. 30-Oct. 2
Columbia Co	Bloomsburgh	Oct. 13-15
Doylestown	Bucks Co	Oct. 5-8
Franklin Co	Chambersburg	Oct. 5-8
Lancaster Co	Lancaster City	Oct. 5-8
Luzerne Co		Sept. 28-30
Montgomery Co		
Northampton Co	Nazareth	Oct. 5-8
Washington Co	Washington	Sept. 22-23
Williamsport (Horse)	Williamsport	Sept. 7-10

MARYLAND.

Carrol Co	Westminster	Sept. 28-Oct. 1
Frederick Co	Frederick	Oct. 12-15
Montgomery Co		Sept. 1-3
Monmouth Co	Frechold	Sept. 14-16
Vineland (Township)		Sept. 17-18

OHIO.

Andover	Ashtabula Co	Sept. 22-24
Ashtabula Co	Jefferson	Sept. 28-30
Augusta	Carroll Co	Oct. 6-8
Belmont Co	St. Clairsville	Sept. 22-24
Belmont	Belmont Co	Sept. 15-17
Blanchester (Township)		Aug. 31-Sept. 4
Butler Co		Oct. 5-8
Champaign Co	Urbana	Sept. 28-Oct. 1
Claridon	Geauga Co	Sept. 28-30
Clarke Co	Springfield	Sept. 7-10
Clermont Co	Bantam	Sept. 7-10
Columbiana Co	New Lisbon	Sept. 22-24
Crawford Co	Bucyrus	Sept. 28-Oct. 1
Cuyahoga Co	Cleveland	Sept. 28-Oct. 1
Defiance Co	Defiance	Sept. 8-10
Delaware Co	Delaware	Oct. 5-6
Fond du Lac (Township)		Sept. 21-23
Franklin Co	Columbus	Sept. 7-10
Greene (Township)		Sept. 23-25
Geauga Co	Burton	Sept. 21-23
Hamilton Co	Carthage	Sept. 7-11
Harrison Co	Cadiz	Sept. 29-Oct. 1
Haysville	Ashland Co	Sept. 28-30
Huron Co	Norwalk	Sept. 21-24
Jamestown	Greene Co	Aug. 24-27
Knox Co	Mt. Vernon	Sept. 7-9
Lawrence Co	Ironton	Sept. 14-17
Lorain Co	Elyria	Oct. 5-8
Madison (Township)		Sept. 22-24
Mahoning Co	Canfield	Oct. 5-7
Mechanicsburgh	Champaign Co	Sept. 21-24
Medina Co	Medina	Sept. 28-30
Morgan Co	McConnellsville	Oct. 13-15
Noble Co	Sarahsville	Oct. 13-15
Orwell	Ashtabula Co	Sept. 14-16
Plymouth Co	Plymouth	Oct. 6-8
Portage Co	Ravenna	Sept. 15-17
Richfield	Summit Co	Sept. 22-24
Sandusky Co	Fremont	Oct. 7-9
Seneca Co	Tiffin	Oct. 5-8
Shelby Co	Sidney	Sept. 21-24
Stark Co	Canton	Sept. 28-Oct. 1
Trumbull Co	Oak Grove n. Warren	Sept. 15-17
Thompson	Geauga Co	Oct. 6-7
Twinsburgh	Summit Co	Sept. 14-16
Uhricksville	Tuscarawas Co	Sept. 8-10
Union Co	Richfield	Sept. 22-24
Warren Co	Lebanon	Sept. 21-23
Wellington	Lorain Co	Oct. 7-9
Wood Co	Tontogany	Oct. 6-8

KENTUCKY.

Bourbon Co	Paris	Sept. 7
Bowling Green	(Warren Co.)	Sept. 14-17
Campbell Co	Alexandria	Sept. 21-25
Central Kentucky	Danville	Sept. 14-17
Clark Co	Winchester	Aug. 31
Fayette Co	Lexington	Sept. 28-Oct. 2
Ky. Ag'l. and Mech	Lexington	Sept. 28-Oct. 2
Marion Co	Lebanon	Aug. 31-Sept. 3
Mason & Bracken Co	Germantown	Sept. 14-17
Mercer Co	Harrodsburg	Sept. 7-10
Nelson Co	Bardstown	Sept. 7-11
North Kentucky	Florence	Aug. 31-Sept. 4
Scott Co	Georgetown	Aug. 31
Shelby Co	Shelbyville	Aug. 31
Simpson Co	Franklin	Sept. 7-11
South Kentucky	Glasgow	Oct. 5-8

INDIANA.

Fayette Co	Connersville	Sept. 7-10
Hancock Co	Greenfield	Sept. 21-24
Henry Co	New Castle	Aug. 24-27
Johnson Co	Franklin	Sept. 14-18
Martin Co	Shoals	Sept. 21-24
Rush Co	Rushville	Sept. 14-18
South Western	Near Aurora	Sept. 7-10
Spencer Co	Rockport	Sept. 29-Oct. 2
Sullivan Co	Sullivan	Sept. 6-10
Vigo	Terre Haute	Sept. 14-17
Tippecanoe Co	Fountain Grove	Sept. 8-10
Union Co	Edinburgh	Sept. 21-25
Vermillion Co	Newport	Sept. 28-Oct. 1
Wayne Co	Centerville	Oct. 5-9

ILLINOIS.

Atlanta Co	Atlanta	Aug. 31-Sept. 4
Aurora Co	Aurora	Sept. 21-24
Boone Co	Belvidere	Oct. 5- 8
Bureau Co	Princeton	Sept. 14-17
Cass Co	Virginia	Aug. 31-Sept. 2
Carrol Co	Mt. Carrol	Sept. 15-17
Champaign Co	Urbana	Sept. 14-17
Clark Co	Marshall	—
De Kalb Co	De Kalb	Sept. 15-18
De Witt	Clinton	Aug. 31-Sept. 3
Du Page Co	Wheaton	Sept. 21-23
Franklin Co	Benton	Sept. 22-24
Greene Co		Sept. 28-Oct. 1
Henry Co	Cambridge	Sept. 7-10
Iroquois Co	Onargo	Sept. 20-22
Jersey Co	Jerseyville	Oct. 12-15
Kendall Co		Sept. 14-17
Kane Co	Geneva	Oct. 8-9
Kankakee Co	Kankakee	Oct. 6-9
Knox Co	Knoxville	Sept. 14-17
La Salle Co	Ottawa	Sept. 28-Oct. 1
Litchfield (Town)		Sept. 21-24
Macon Co	Havana	Oct. 5-7
Macoupin Co	Carlinville	Oct. 12-15
Madison Co	Edwardsville	Aug 31-Sept. 3
Marion Co	Salem	Sept. 21-24
McDonough Co	Macomb	Sept. 21-24
McHenry Co	Woodstock	Sept. 22-24
McLean Co	Bloomington	Sept. 14-17
McLeod Co		Sept. 14-18
Mercer Co	Aledo	Oct. 5-7
Montgomery Co	Hillsboro	Sept. 14-17
Moultrie Co	Sullivan	Sept. 8-11
Ogle Co	Oregon	Sept. 14-16
Pike Co	Pittsfield	Oct. 12-15
Pope Co	Golconda	Oct. 7-9
Rock Island Co	Rock Island	Sept. 7-11
Randolph Co	Sparta	Sept. 29-Oct. 1
Saline Co	Harrisburg	Sept. 22-24
Schuyler Co	Rushville	Oct. 6-8
St. Clair Co	Belleville	Sept. 14-17
Stark Co	Toulon	Sept. 21-23
Stephenson Co	Freeport	Sept. 14-17
Sycamore	De Kalb Co	Oct. 6-8
Union Co	(Jonesboro)	Sept. 8-10
Union Soc	Centralia	Oct. 12
Vermilion Co	Catlin	Sept. 7-10
Warren Co	Monmouth	Sept. 7-10
Whiteside Co	Sterling	Sept. 21-23
Winnebago Co	Rockford	Sept. 21-24
Woodford Co	Metamora	Oct. 5-8
Wayne Co	Fairfield	Oct. 6-8

MICHIGAN.

Bay Co	Bay City	Sept. 22-24
Branch Co	Coldwater	Sept. 14-16
Cass Co	Cassopolis	Sept. 29-Oct. 1
Calhoun Co	Marshall	Oct. 6-8
Central Mich	Lansing	Sept. 28-30
Clinton Co	St. Johns	Sept. 29-Oct. 1
Genesee Co	Flint	Sept. 29-Oct. 1
Gratiot Co	Ithaca	Oct. 13-15
Grand Traverse	Traverse City	Oct. 6-7
Hillsdale Co	Hillsdale	Oct. 6-8
Ionia Co	Ionia	Oct. 7-9
Jackson Co	Jackson	Oct. 20-22
Kent Co	Grand Rapids	Sept. 29-Oct. 1
Lapeer Co	Lapeer	Sept. 29-Oct. 1
Livingston Co	Howell	Oct. 6-8
Montcalm Co	Greenville	Oct. 5-7
Oakland Co	Pontiac	Oct. 6-8
Saginaw Co	Saginaw	Sept. 29-Oct. 1
St. Joseph Co	Centreville	Sept. 29-Oct. 1
Shiawassee Co	Owasso	Sept. 29-Oct. 1
Washtenaw Co	Ann Arbor	Oct. 6-8

MINNESOTA.

Dakota Co	Farmington	Oct. 12-14
Fillmore and Mower Co's	Spring Valley	Oct. 6-7
Goodhue Co	Red Wing	Oct. 6-8
Rice Co	Northfield	Sept. 23-24
Wabashaw Co	Plainview	Oct. 6-7

WISCONSIN.

Columbia Co.	Columbus	Sept. 22-24
Fond du Lac Co	Fond du Lac	Sept. 21-23
Grant Co	Lancaster	Sept. 15-17
Green Co	Monroe	Sept. 23-25
Green Co. (Horse)		Oct. 7-9
Iowa Co	Dodgeville	Sept. 22-24
Racine Co	Burlington	Sept. 14-16
Ripon Co	Ripon	Sept. 15-17
Rock Co	Janesville	Sept. 14-17
South Wisconsin Co	Janesville	Sept. 14-17
Walworth Co	Elkhorn	Oct. 5-7
Winnebago Co	Oshkosh	Sept. 22-24

IOWA.

Adams Co	Quincy	Sept. 25
Allamakee Co	Waukon	Sept. 28-30
Appanoose Co	Centerville	Sept. 28-30
Benton Co	Vinton	Sept. 29-Oct. 1
Boone Co	Boonesboro	Sept. 1-3
Bremer Co	Waverly	Sept. 28-30
Cedar Co	Tipton	Sept. 28-30
Cedar Valley	Cedar Falls	Sept. 7-10
Central Iowa	Des Moines	Sept. 7-10
Chickasaw Co	Newhampton	Sept. 7-8
Clayton Co	Farmersburg	Oct. 1
Clinton Co	Clinton	Sept. 7-10
Davis Co	Bloomfield	Oct. 6-8
Des Moines Co	Burlington	Sept. 6-10
Fayette Co	West Union	Sept. 28-30
Floyd Co	Chas. City	Sept. 21-23
Harrison Co	Little Sioux	Sept. 28-30
Henry Co	Mt. Pleasant	Sept. 8-10
Howard Co	Cresco	Sept. 9-11
Jackson Co	Maquoketa	Oct. 13-15
Jasper Co	Newton	Sept. 22-24
Jefferson Co	Fairfield	Sept. 28-30
Johnson Co	Iowa City	Sept. 21-24
Lee Co	West Point	Sept. 8-10
Lucas Co	Chariton	Oct. 13-15
Lynn Co	Marion	Sept. 7-8
Madison Co	Winterset	Sept. 25-30
Mahaska Co	Oskaloosa	Sept. 3
Marion Co	Knoxville	Sept. 8-10
Montgomery Co	Red Oak Junc	Oct. 7-9
Monroe Co	Albia	Sept. 21-24
Muscatine Co	Muscatine	Sept. 7-9
Scott Co	Davenport	Sept. 13-17
Tama Co	Tama City	Sept. 29-Oct. 1
Union Co	Ackley	Oct. 6-8
Union Dist	West Liberty	Oct. 7-8
Van Buren Co	Keosauqua	Oct. 14-15
Washington Co	Washington	Sept. 8-10
Wayne Co	Corydon	Sept. 30-Oct. 2
Wheatland	Union	Sept. 1-3
Winneshiek Co	Decorah	Sept. 22-24

MISSOURI.

Boone Co	Columbia	Aug. 31-Sept. 4
Buchanan Co	St. Joseph	Sept. 27-Oct. 3
Calloway Co	Fulton	Sept. 21-26
Carrol Co	Carrolton	Sept. 23-27
Cass Co	Pleasant Hill	Sept. 7-12
Chariton Co	Keytesville	Sept. 28-Oct. 2
Clinton Co	Plattsburgh	Sept. 7-10
Cole Co	Jefferson City	Sept. 14-15
Cooper Co	Boonville	Sept. 28-Oct. 1
Green Co	Springfield	Sept. 28-Oct. 2
Holt Co	Oregon	Sept. 15-17
Independent Ass'n	Ravanna	Sept. 7-9
Jefferson Co	De Soto	Sept. 7-9
Johnson Co	Warrensburg	Sept. 7-11
Knox Co	Newark	Sept. 13-16
Lafayette Co		Oct. 19-23
Lewis Co	LaGrange	Sept. 23-26
Livingston Co	Chillicothe	Sept. 6-11
Louisiana (Township)		Sept. 28-Oct. 2
Lynn Co	Brookfield	Sept. 14-18
Macon Co	Macon City	Sept. 28-Oct. 2
Monroe Co	Paris	Sept. 14-18
Montgomery Co	New Florence	Sept. 28-Oct. 2
N. Mo. Stock, etc	Salisbury	Oct. 19-22
People's Ag'l. and Mech. Ass'n	Montgomery	Oct. 11-17
Pike Co	Ashley	Sept. 21-26
Platte Co	Platte City	Sept. 7-11
Randolph Co	Huntsville	Aug. 31-Sept. 4
Ray Co	Richmond	Oct. 12
Saline Co	Marshall	Sept. 14-18
Scotland Co	Memphis	Sept. 28-Oct. 1
Shelby Co	Shelbina	Sept. 20-24
St. Joseph Co	St. Joseph	Sept. 27-Oct. 3
St. Louis Mech. etc		Oct. 4-9
Sturgeon Co	Sturgeon	Sept. 7-11
Vernon Co	Nevada City	Oct. 5-7
Warren Co	Warrenton	Sept. 20-26
Webster Co	Marshfield	Oct. 5-7

VIRGINIA.

Rockbridge		Oct. 20-22
Border Fair, Va. &N. C.	Danville	——

WEST VIRGINIA.

W. Va. Central	Clarksburg	Sept. 21-23

NORTH CAROLINA.

New Hanover	Wilmington	Nov. ——

TENNESSEE.

Montgomery Co	Clarksville	Oct. 6- 9
Wilson Co		Sept. 20-25

OREGON.

Washington Co	Hillsboro	Oct. 4- 7

Draughts of Cold Air.—"W. A. G.," Washington, is annoyed by the draughts of cold air which enter under and around his window sashes. The remedy is a very simple one. Procure some India-rubber window strips and tack them on. There are several kinds, made by different manufacturers, but they all agree in principle. They are sold here, and we presume elsewhere, at the house-furnishing and hardware stores.

Commercial Matters—Market Prices.

The following condensed, comprehensive tables, carefully prepared specially for the *American Agriculturist*, show at a glance the transactions for the month ending Aug. 14, 1869, and for the corresponding month last year.

1. TRANSACTIONS AT THE NEW-YORK MARKETS.

Receipts.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
28 days *this* m'th.	347,000	3,558,000	1,389,000	71,000	39,000	879,000
24 days *last* m'th.	313,500	3,342,500	1,244,000	87,000	27,000	508,000

Sales.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
28 days *this* m'th.	465,000	5,478,000	2,293,000	89,000	——	1,396,000
24 days *last* m'th.	416,000	4,247,000	2,113,000	65,000	——	1,194,000

2. *Comparison with same period at this time last year.*

Receipts.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
28 days 1869	347,000	3,558,000	1,389,000	71,000	39,000	789,000
27 days 1868	106,000	557,000	2,383,000	3,500	41,000	635,000

Sales.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats*
28 days 1869	465,000	5,478,000	2,293,000	89,000	——	1,396,000
27 days 1868	318,000	1,189,000	3,198,500	24,000	——	1,895,000

3. *Exports from New York*, Jan. 1 *to* Aug. 12:

	Flour.	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
1869	812,765	9,099,803	1,537,077	72,811	——	42,727
1868	575,091	3,209,204	4,903,872	153,093	——	40,643

4. *Stock of grain in store at New York:*

	Wheat, bush.	*Corn,* bush.	*Rye,* bush.	*Barley,* bush.	*Oats,* bush.	*Malt.* bush.
1869.						
Aug. 9	634,262	233,155	75,797	361	50,219	105,458
July 10	531,657	328,613	71,418	2,966	259,985	97,177
June 7	657,877	385,241	107,546	383	555,993	109,746
May 11	1,056,018	394,156	107,502	17,684	613,166	77,677
Apr. 10	1,684,633	1,080,769	165,008	48,281	1,178,740	66,664
March 13	1,990,416	1,301,167	211,889	81,616	2,000,457	50,095
Feb. 10	2,708,609	1,407,646	225,182	91,384	2,390,529	58,034
Jan. 13	3,524,172	1,509,233	263,260	54,740	2,864,354	236,001
1868.						
Dec. 14	3,475,544	2,005,819	287,101	342,921	3,044,594	99,526
Nov. 10	1,821,057	2,773,309	123,248	371,055	2,083,798	23,691
Oct. 12	483,806	2,508,744	31,825	22,026	1,393,936	59,651
Sept. 9	246,549	2,143,590	——	16,990	256,427	97,094
Aug. 11	585,370	1,611,468	——	575	489,100	92,995
July 13	592,919	1,460,412	28,897	575	780,825	57,138

5. *Receipts at head of tide water at Albany each season to Aug. 7th:*

	Flour, bbls.	*Wheat,* bush.	*Corn,* bush.	*Rye,* bush.	*Barley,* bush.	*Oats,* bush.
1869	185,000	7,350,000	2,600,400	217,100	11,800	1,737,600
1868	121,400	5,073,900	8,226,000	159,600	326,500	4,359,200
1867	64,700	316,400	5,682,700	126,200	35,100	1,646,200

CURRENT WHOLESALE PRICES.

	July 13.	Aug. 14.
PRICE OF GOLD	136¼	134⅜
FLOUR—Super to Extra State ₱ bbl	$5 30 @ 7 15	5 85 @ 7 50
Super to Extra Southern	6 60 @12 75	6 65 @12 00
Extra Western	6 10 @12 00	6 60 @12 00
Extra Genesee	7 20 @ 9 00	7 50 @ 9 00
Superfine Western	5 30 @ 5 80	5 85 @ 6 45
RYE FLOUR	4 00 @ 6 40	4 45 @ 6 75
CORN MEAL	4 40 @ 4 90	5 00 @ 6 20
WHEAT— All kinds of White	1 55 @ 2 05	1 65 @ 1 90
All kinds of Red and Amber	1 40 @ 1 70	1 45 @ 1 80
CORN— Yellow	98 @ 1 00	1 18 @ 1 22
Mixed	70 @ 98	85 @ 1 20
OATS— Western	82 @ 84	75 @ 76
State	83 @ 84	74 @ 76
New	— @ —	65 @ 72
RYE	1 25 @ 1 35	1 23 @ 1 28
BARLEY	Nominal.	1 50 @ 1 60
HAY—Bale ₱ 100 ℔	55 @ 1 15	60 @ 1 25
STRAW, ₱ 100 ℔	65 @ 1 10	1 00 @ 1 50
COTTON—Middlings, ₱ ℔	34½@ 35	33½@ 34¼
HOPS—Crop of 1868, ₱ ℔	7 @ 12	7 @ 12
FEATHERS—Live Geese, ₱ ℔	87 @ 95	85 @ 95
SEED—Clover, ₱ ℔	13 @ 14	13 @ 14
Timothy, ₱ bushel	3 75 @ 4 25	4 75 @ 5 25
Flax, ₱ bushel	2 50 @ 2 70	2 50 @ 2 65
SUGAR—Brown, ₱ ℔	10¼@ 13½	10¼@ 13⅜
MOLASSES, Cuba, ₱ gal	35 @ 60	35 @ 60
COFFEE— Rio, (Gold, in bond)	8¼@ 12½	8½@ 12⅜
TOBACCO, Kentucky, &c., ₱ ℔	5 @ 17	5 @ 17
Seed Leaf, ₱ ℔	7½@ 75	6 @ 75
WOOL—Domestic Fleece, ₱ ℔	41 @ 60	41 @ 60
Domestic, pulled, ₱ ℔	32 @ 48	32 @ 48
California, unwashed	22 @ 35	22 @ 35
TALLOW, ₱ ℔	11¼@ 11⅝	11⅜@ 12½
OIL-CAKE—₱ ton	51 00 @54 00	50 00 @54 50
PORK—Mess, ₱ barrel	31 62 @32 12	33 75 @33 37
Prime, ₱ barrel	26 00 @27 00	27 25 @28 50
BEEF—Plain mess	4 00 @16 00	4 00 @16 00
LARD, in trcs. & barrels, ₱ ℔	16½@ 19¾	17¼@ 20½
BUTTER—Western, ₱ ℔	16 @ 30	16 @ 33
State, ₱ ℔	36 @ 40	16 @ 40
CHEESE	6 @ 15½	7 @ 16
BEANS—₱ bushel	2 00 @ 2 70	1 40 @ 2 70
PEAS—Canada, free, ₱ bush	1 45 @ 1 50	1 50 @ —
EGGS—Fresh, ₱ dozen	19 @ 24	22 @ 26
POULTRY—Fowls, ₱ ℔	18 @ 19	20 @ 22
Turkeys, ₱ ℔	19 @ 20	21 @ 22
POTATOES, New—₱ bbl	2 00 @ 7 00	88 @ 1 50
APPLES—₱ barrel	1 50 @ 3 00	2 00 @ 4 50
SWEET POTATOES, ₱ bbl	— @ —	— @ —
TURNIPS—₱ bbl	— @ —	50 @ 75
CABBAGES—₱ 100	2 25 @ 5 00	3 00 @ 6 00
ONIONS—₱ bbl	4 50 @ 6 00	2 75 @ 4 50
GREEN CORN—₱ 100	75 @ 1 25	75 @ 1 12
TOMATOES—₱ crate	2 00 @ 3 00	60 @ 1 00
CUCUMBERS—₱ 100	1 25 @ 2 00	75 @ 1 25
BLACKBERRIES—₱ Quart	12 @ 18	3 @ 6
WHORTLEBERRIES—₱ bushel	4 50 @ 6 50	1 75 @ 2 50
PEACHES—₱ basket	1 75 @ 3 50	40 @ 1 25
SQUASHES—₱ bbl	— @ —	75 @ 1 00
PEARS—₱ crate	— @ —	5 00 @12 00
PEARS—₱ bbl	— @ —	2 50 @ 7 00
MELONS—₱ bbl	— @ —	75 @ 2 00
WATERMELONS—₱ 100	— @ —	7 50 @37 50
GRAPES—₱ ℔	— @ —	20 @ 30
BROOM-CORN—₱ ℔	— @ —	16 @ 21

Gold has declined to 134, leaving off as we write at 134⅜....There has been more activity in Breadstuffs since our last. The export demand for Flour and Wheat has been quite brisk. The home inquiry has been moderate. Prices have varied from day to day, with the changeable tenor of the crop, weather, and market accounts, especially from Europe. Toward the close, the advantage as to price was in favor of buyers, influenced in part by the recent sharp rise in rates on ocean freight. There has been more doing in Corn for the home trade, and on speculative account, and with light receipts prices have advanced sharply. Only a small proportion of sound Corn, as well as of spring Wheat, has been available, the bulk of the receipts having been more or less damaged by heating. Rye has been in some request within a few days, mainly for export, and has been quoted steady. Oats have declined materially under free arrivals, particularly of new crop, largely, however, in poor order. Barley and Barley Malt have been inactive. Provisions have been in light supply, and held with more firmness, as a rule, on, however, a very moderate business, save in Lard, which has been rather freely purchased for export and on speculation....Wool has been more sought after and quoted steadier. Manufacturers have been the principal buyers....Cotton, Hops, Hay, and Tobacco, have been moderately inquired for. The new crop of Hay is coming forward more freely, and is meeting with increasing favor among buyers for home use.

New York Live Stock Markets.—

Week ending.	*Beeves.*	*Cows.*	*Calves.*	*Sheep.*	*Swine.*	*Tot'l.*
July 19th	6,876	68	3,096	28,628	29,143	58,809
do. 26th	6,987	156	2,768	29,003	23,259	62,173
August 2d	7,206	147	2,561	38,056	22,808	70,278
do. 9th	5,955	65	2,169	35,784	24,184	68,157
Total in 4 Weeks	27,024	436	10,594	131,471	89,894	259,417
do. *for prev. 4 Weeks*	24,892	339	13,735	137,733	91,535	380,144

	Beeves.	*Cows.*	*Calves.*	*Sheep.*	*Swine.*
Average per Week	6,756	109	2,649	32,868	22,473
do. do. *last Month*	6,233	85	3,434	34,443	50,851
do. do. *prev's Month*	6,380	73	2,437	18,866	24,087
Average per Week, 1868	5,733	105	1,588	27,182	18,809
do. do. do. 1867	5,544	64	1,320	22,134	20,605
do. do. do. 1866	5,748	94	1,200	20,000	13,000
do. do. do. 1865	5,235	118	1,500	16,091	11,023
do. do. do. 1864	5,161	145	1,511	15,515	12,676
Total in 1868	298,128	5,466	82,571	1,413,479	978,061
Total in 1867	293,832	3,369	69,941	1,174,154	1,102,643
Total in 1866	298,880	4,885	62,420	1,040,000	672,000
Total in 1865	270,274	6,161	77,991	836,733	578,190
Total in 1864	267,609	7,603	75,621	732,462	660,277

The supply of beef cattle this month has been a little above the figures given for last month's stock. The quality has also improved somewhat, although none have been over fat. The "Texas Fever," which raged so seriously a year ago, seems to have passed by this year, and we now have a large proportion of Texas cattle in market. Some of this grade, fed by Mr. Alexander on his farm in Illinois, for one year, were especially noticeable. They would average about 6@6½ cwt., and were really fine; they brought 13c. on the scales. Mr. A. is a large dealer in Texas cattle, and he proposes to see his cattle killed, and find out for himself how they look when dressed. There seems to be a great prejudice among butchers against Texas cattle, but why there should be against fat ones, we can not see. We are sure that inferior Northern cattle sold for a much higher price, both last week and this week, than good Texas cattle brought, both standing side by side in the same market. We hope Mr. A's cattle will prove to butchers that this is mere prejudice, and that good, fat Texas steers will be plenty in our market hereafter. There was one drove of very poor Florida cattle in market, but they looked so very bad that their owners said they were not for sale, but intended for the country. They will need at least one year's feeding before they become fit for market. Below we give the range of prices, average price, and figures at which the largest lots were sold.

July 19, ranged 10 @16c.	Av. 14½c.	Largest sales	13¼@15½
do. 26th do. 9½@16c.	do. 14c.	do. do.	13 @15
Aug. 2d do. 10 @16c.	do. 14½c.	do.	13 @15
do. 9th do. 11 @16c.	do. 14c.	do.	12 @15½

The market has not been very active, and prices have declined at least one cent per pound. In some instances we call it more than one cent, for the stock averaged better. Excluding the cattle from Florida, the animals averaged fair, and showed an improvement over last month....**Milch Cows** are generally in little better demand at this season of the year, and trade in this department has brightened up a little. Good cows sold readily at fair prices, to milkmen, to supply the place of those going dry. "Fancy cows" found a few buyers at high prices, but there was seldom more than $100 paid for a cow and calf. Prices range from $90 for good cows, all the way down to $50 for inferior ones....**Veal Calves.**—The great majority of calves now coming to market are poor, rather low in flesh, and of all sizes. But few sell by the pound. They are mostly sold by the "lump," or single one. Prices range from $7@$10 a head, when sold in this way. As we close this report veal is a little more called for, and we notice a slight advance in price; some milk-fed calves are selling by the pound at from 9@11½c., live weight....**Sheep.**—The arrivals have been very abundant, although not so large as those of last month. There are too many sheep in market for a healthy trade. Buyers feel unsettled, and the whole aspect is unsatisfactory. Drovers have to pay higher prices in the country than the market will warrant, and many sales are made to butchers here on long credit, or with notes dated ahead, so the prices paid are really a little above the actual cash market. This is not

right, and the sooner they come to a cash basis, the better. Prices for sheep are nearly unchanged from figures given last month. They range from 4½@6¼c. for ordinary to prime, with some extra fat at 7c. Lambs are abundant and low. They are also rather poor, and sell even less readily than sheep. Prices range from 6@9c. per pound, with very extra at 9½c....**Swine** sell steadily, and every week the yards are about cleaned out. Prices are looking up a little. Most of the hogs still go at once to the slaughterer's, and are offered for sale dressed. Alive, they are really worth 10@10½c. per pound, as they sell readily at 12½c. when dressed. For the week ending Aug. 9th, a few very extra dressed hogs brought 12¾@12¾c. per pound. One car load of "Ohio stillers," fat, sold on foot for 10c. per pound. The market is not very active just now.

containing a great variety of Items, including many good Hints and Suggestions which we throw into smaller type and condensed form, for want of space elsewhere.

Postage.—To our *published terms* for the *American Agriculturist*, postage must in all cases be added when ordered to go out of the United States. For Canada, send twelve cents besides the subscription money with each subscriber. Everywhere in the United States, *three cents*, each quarter, or *twelve cents, yearly*, must be prepaid at the Post-office where the paper is received.

How to Remit:—Checks on New-York Banks or Bankers are best for large sums; made payable to the order of **Orange Judd & Co.**

Post-Office Money Orders may be obtained at nearly every county seat, in all the cities, and in many of the large towns. We consider them perfectly safe, and the best means of remitting fifty dollars or less, as thousands have been sent to us *without any loss*

Registered Letters, under the new system, which went into effect Oct. 1, 1868, are a very safe means of sending small sums of money where P. O. Money Orders cannot be easily obtained. *Observe*, the *Registry fee*, as well as postage, *must be paid in stamps* at the office where the letter is mailed, or it will be liable to be sent to the Dead Letter Office. *Buy and affix the stamps both for postage and registry, put in the money, and seal the letter in the presence of the postmaster, and take his receipt for it.* Letters thus sent to us are at our risk.

Bound Copies of Volume XXVII (1868) are now ready. Price, $2, at our office, or $2.50 each, if sent by mail. Any of the previous eleven volumes (16 to 26) will be forwarded at the same price. Sets of numbers sent to our office will be neatly bound in our regular style for 75 cents per volume, (50 cents extra if returned by mail.) Missing numbers supplied at 12c. each.

An Important Work.—Orange Judd & Co. have in press a work on Agricultural Analysis, edited by Prof. G. C. Caldwell of the Cornell University. Teachers of Agricultural Chemistry have long felt the need of a text book which should serve as a guide to the analysis of soils, manures, and the products of the farm. The present work is very thorough, beginning with the preparation of reagents and giving the most approved methods of manipulation. To teachers of agricultural chemistry in the many agricultural colleges now springing up, this will be a most welcome aid, while it will prove a great help to those who are advanced in analysis, as it presents at one view a special class of operations, which must, had this not been prepared, have been sought for through several works. Professor Caldwell modestly calls himself the editor, but his manuscript shows that he has not contented himself with editing the works of others, but has given much of his own experience. The work will be ready for the fall classes of the agricultural colleges.

Pictures in the Household.—A bare wall is very cheerless. Even the coarse colored lithographs that are hawked about are better than nothing, to put upon the walls for the eye to rest upon, but a well-executed engraving is much better. The introduction of **Chromo Lithographs**, or Chromos, as they are now popularly called, has placed it within the power of persons of moderate means to adorn their dwellings with beautiful pictures. In these chromos the picture is reproduced in colors with such fidelity that only good judges can distinguish the original from the copy. Only the wealthy can afford to have original pictures, but almost every one can have the next best thing to them,—a good copy in chromo. We announced in August last that Mrs. Lilly M. Spencer had painted a charming picture, called "Dandelion Time," which the publishers of this paper were preparing to produce as a chromo. It will be seen, by reference to the advertising columns, that the picture is now ready. Three children are out upon the grass with the old family dog, who has been decked with a dandelion wreath, but feels too much the responsibilities of his position to join in the gayeties of the children, who are having a good time among the dandelions. The picture is full of innocent child life, and will bring back memories of happy days to all who possess it.

Bermuda.—A large steamer now runs regularly between New York and the Bermuda Islands, bringing to our market the earliest onions and potatoes, and thousands of bunches of the finest bananas, etc., etc., and carrying back such merchandise as is needed at the islands, including one hundred and fifteen copies monthly of the *American Agriculturist*. Ah! that's what did it! It improves the state of agriculture wherever its influence is felt. We advise everybody, and their friends, to subscribe now and get three months for nothing. See page 324. The engravings alone are worth more than the price of the paper.

Scripture Quotations.—"A Friend," at Keyport, N. J., finds an anecdote in regard to a juvenile misreading of scripture which we gave in the Boys' and Girls' columns last month, irreverent. We would not in any way offend the religious feeling of any person. We did not see anything improper in the item, or it would not have been printed. To show that we are not alone in our view of the matter we will say that the anecdote referred to was given us by a clergyman who is a Doctor of Divinity, and an author whose writings we have no doubt our friend has read with pleasure.

New York State Poultry Society. Coming Exhibition.—This Society, which won golden opinions last spring, is now distributing its golden and silver tokens to successful exhibitors. These medals are beautifully designed and executed. The silver medal contains over $3 worth of silver and has cost the Society not less than $6. The design represents a group of farmyard poultry of all kinds, and a chick breaking the egg in the foreground. On the reverse is the inscription, enclosed in a wreath of bay, with a bird's nest where the wreath is tied. The Society encourages every thing useful or ornamental produced from the egg (including insects, we presume) and certainly fish; hence the prominence given to the egg in their design. The great gold medal is struck in the same dies with the silver medal, and is worth not far from $80. The small gold medal is considerably smaller, but very chaste and beautiful. The Society proposes to hold an exhibition beginning on the first Tuesday in December and continuing until the last of the subsequent week. The distinguished writer on poultry, Mr. Tegetmeier, of London, has accepted the invitation of the Society to deliver a course of lectures at the time of the exhibition. The officers of this Society are, we believe, exerting themselves to the utmost to give the Society a high stand and make its decisions the highest authority in the land, on its specialties. Mr. G. H. Warner, of New York Mills, N. Y., is President, and Mr. Daniel E. Gavitt, of New York City, is Secretary. The Society has our confidence, best wishes, and hearty co-operation.

Sundry Humbugs.—There is one "Doctor" E. Andrews, the "Good Samaritan" of Albany, who is a great man. He offers "the public a treasure" in the way of medical and religious books, etc.,—at least he says so, and we should say so too, judging from the paper before us. Of course, Mr. Dr. A., you are a "reformer in medicine;" "Good Samaritans" always are, and when you get through with reforming medicine if you will only reform yourself,—leave off quackery and take up some honest business,—we shall think better of you. There is no need to tell us "there is balm in Gilead." We know that already; but Oh! Doctor, is there balm in Albany? We doubt it, for as we read on to the end of this precious little pamphlet of yours, we find the "Doctor" has fallen from grace and wants two three-cent stamps for every letter he answers, and from $1.00 to $12.00 for every bottle of medicine he sends out.... Gumbridge & Co. seem to have had such good luck with their photographed "greenbax" that we find others are taking up the trade. Two of the more prominent just now are Henry B. Chatman, Bridgeport, Conn., and Noyes & Co., New York. This last-named firm are old offenders in many ways. A few months ago they were in the bogus lottery business; now they want to sell spurious money. They all have the same confidential letter, and manifest the same great haste to strike a bargain with some one. Beware of all such men. We are often asked, How can such things be done day after day in open defiance of law? We answer, by finding young men and old ones who are foolish enough to trust them and risk $5.00 or $10.00 in the "stuff," as it is aptly called. We have no doubt that many persons send money to these advertisers out of mere sport, and without thought that their action is criminal and punishable....We know nothing about the "Apex Sewing Machine;" and repeat here what we have often said—Don't buy cheap sewing machines. If any one wants a sewing machine he should buy a good one, and none of the cheap ones that we have seen are good for any thing....Messrs. S. W. Waters & Co. still keep at the preliminary drawing of the "N. Y. Jewelers' Coöperative Union," and we continue our warning against them....Calvin Willis & Co. claim to be "Purchasing and Forwarding Agents," and they may be such; but who would want any of the trash they advertise to send, forwarded any where at any price? Their advertising circular is simply nasty, to put it mildly, and we need only mention the fact to our readers. ....Flashy advertisers of cheap burning fluid are again coming around. Here is one that assumes the dignity of a paper. "The light for the world, 25c. a year,"—dear at half the price. We warn all persons not to trust them or their burning fluid; all low-priced fluids are dangerous to use... Dailey & Co., New York, are also in the counterfeiting business. Their plan is little better calculated to deceive than those mentioned above. Messrs. D. & Co. claim to have stolen from the treasury vault the plate upon which original copies were taken, and that the "greenbax" they send are "sure go every time," and just like the genuine one, only a little shorter, etc. How fortunate it was for the treasury vault to be open just at the right time with nobody to watch it! Messrs. D. & Co., we have an eye on your operations.

Abortion in Cows.—Dr. Wm. H. Carmalt, Commissioner of the N. Y. State Ag'l Society for the investigation of the cause of abortion in cows, which has caused such great losses to the farmers of the State of New York, reported at the annual meeting in February. This report is now printed and circulated, and is, in a measure, a continuation of the report made by Dr. Dalton last year. It shows extended and minute research, and is illustrated by maps and numerous tables, prepared apparently with great care. No absolute conclusion is arrived at, but it seems to be the Doctor's decided opinion that the great demand made upon the cows for milk during pregnancy is a probable cause.

Cuba.—The war is still raging in the "ever faithful Isle," each of the contending parties weekly claiming decided advantages over the other and as often charging its opponents with gross excesses and inhumanity. It is a pity that this beautiful land should be thus desolated, and millions of dollars' worth of property be burned up, and more a pity that human life should be thus sacrificed. Our sympathies, of course, are with the *free*, and we suggest to all parties in Cuba, and everywhere else, to turn their attention to agriculture, subscribe for the *American Agriculturist* now, and get three months for nothing. See page 324. The engravings alone are worth more than the price of the paper.

Sewage System.—We have received from Dr. F. Coar, of Philadelphia, a pamphlet by Dr. G. Zehfuss, of Frankfort-on-the-Main, translated by Dr. Coar, on the Pneumatic Sewage System of Capt. Liernur. This system removes all the contents of the privies of cities, daily, and delivers them to the farmers at a reasonable cost. It is done by a steam locomotive, air-pump, and a suitable arrangement of reservoirs and of pipes connected with each house. It is being put into practical operation in Prague (Bohemia), and Brünn (Moravia), by capitalists depending solely upon the sales of manure for profit. We shall look with interest for the results. Meanwhile the earth-closet system of disposing of and utilizing the same offensive matter is daily gaining favor. The two systems seem each to offer a solution to the vexed question—How shall we stop the present great waste of fertilizing matter?

The water drawn from the hydrants in Central Park, New York, is conveyed through lead-encased block-tin pipe.

Henry H. Crapo.—Ex-Governor Crapo, of Michigan, a man widely known and respected in the political world, and endeared to the people of his adopted State by faithful services and zeal for her welfare, died at his home in Flint, Mich., July 23d. He was born in Dartmouth, Mass., and was for many years largely interested in the lumber trade of Michigan, where he took up his residence. He was a large farmer, and thoroughly and actively identified with agricultural progress.

More Beautiful Houses.—The dwellings illustrated and described in the *American Agriculturist* for last March were quickly sold, and have so greatly pleased the purchasers that neither of them could be bought now except at an advance of several thousand dollars. Two more houses are now nearly completed on a similar plan, but with sundry improvements suggested by experience, and by hints from the readers of this journal. They are of larger size, have circle or arched-head doors and windows throughout the first story, more piazzas and windows, and are on larger plots of ground. They will be ready for inspection by Sept. 1st, by those who may wish to examine the plans and structure, by calling on the builder, Mr. John Donald. They are on Bowne Avenue, Flushing, about 100 rods from the Main Street R. R. Depot. Trains run between Flushing and 34th street and James Slip Ferries, N. Y. City, at almost all hours from sunrise to midnight. These houses will be sold to the first comers, on easy terms of payment, and at the cost of construction added to a moderate price for the land. Inquire of Jas. B. Parsons, 34 Pine St., or John P. Ellis, 256 Broadway, N. Y. City.

Finely Grown Lilies.—A magnificent specimen of the Golden-banded Lily, *Lilium auratum*, we think the finest we have ever seen, was sent by Mr. Geo. Such, South Amboy, N. J., who has great success with bulbs. A pot specimen from him of the more common Japan Lily, *L. speciosum*, was in our window for a week or two, and admired by hundreds. It had about a dozen stems, bearing from 4 to 12 flowers each....Then Mr. James Vick, of Rochester, sent more lilies—a large basketful of the kinds mentioned above, and many more which people would cultivate if they knew how beautiful they were and how easily they may be grown. There was the beautiful *Lilium longiflorum*, the Long-flowered, and the larger Brown's Lily, *L. Brownii;* the *L. Chalcedonicum*, with its bright scarlet Turk's-cap flowers; *excelsum*, with a color so delicate we hardly know how to name it; several varieties of *L. umbellatum;* and others, not forgetting the good old White Lily, *L. candidum.*

An Unfruitful Vine.—W. J. Teeter, Pulaski Co., Ind., has some vines which bloom every year, but bear no fruit. He does not say what vines they are, and we suppose he has one of our wild vines, which are often barren. Better plant some good varieties this fall, and if the others are in a desirable situation, the experiment of grafting may be tried. The grafting is done in October or November below the surface of the ground.

Trouble with Verbenas.—Mrs. "R. W. T.," Decatur, Ill. It is probably some form of mildew not known here. Send a specimen.

N. Y. Central Park Report.—Through the politeness of Hon. Andrew H. Green, Controller, we have received the 12th Annual Report of the Commissioners. A hasty perusal shows it to be equal in value to its predecessors. These reports form a valuable part of a horticultural library, as besides giving an account of the progress of the work, there is always material of use to those contemplating the laying out of parks, or who are interested in landscape gardening in general.

The Wild Goose Plum.—Specimens of this plum were sent by Samuel Baker, Madison, Tenn. Mr. B. claims to have the original tree from "seed taken from a wild goose's craw."—The plums were rather too ripe when packed, and did not reach us in very good condition. Enough were entire to show it to be a large and handsome variety of the wild plum, and if its productiveness and hardiness are such as are claimed for it, it will no doubt be valuable as a preserving plum, and in those localities where the foreign sorts cannot be grown will prove acceptable as a table fruit.

The Grape Prospects.—In some of the grape localities in Ohio the continued rains have made sad havoc with the crop. At Hammondsport, as we learn from our correspondent Dr. E. Van Keuren, they were at one time threatened with both mildew and blight, but the danger is now considered as past and they look for a fair average crop of fruit. Vines which were allowed to overbear last year, and those not properly cared for, have been more subject to disease than those in properly managed vineyards....M. A. Stevenson, a well-known grape grower of Clyde, O., writes: "You are probably aware that we have had the most remarkable rainy period during June and July. The Catawba and Concord grapes were entirely destroyed in my vineyard, while the Delaware and Iona hang full of beautiful bunches that gladden the eyes to behold. In my brother's vineyard, the Ionas have suffered but slightly, but his Concords and Catawbas are almost entirely destroyed by the mildew. He had 3 rows of Catawbas in the 3d season that gave the greatest promise for fruit, but were entirely mildewed in a night and not a bunch left. A very curious fact is that I have some large Isabella vines trained on trees in my door-yard, correctly pruned, that are a sight to behold, hanging full of beautiful clusters and fine bunches of grapes, not in the least affected. The 500 Eumelan vines which I received this spring I planted late, near the 1st of June, on account of the excessive wet which prevailed. They are all growing and doing well, except 2 vines. A very great number are already between 3 and 4 ft. high. They are hoed clean, and the laterals are pinched with only one cane to each vine. Also the 500 Eumelans, which B. K. Stevenson planted about the 20th of May, are doing still better than mine. They give him great pleasure on account of their great vigor and bright dark green and enduring leaf."

Walnut Trees and Fruit Trees.—Mrs. D. S. Sharpe, Williamsburgh, O. We cannot conceive that walnut trees can exercise any injurious influence upon fruit trees except in two ways—robbing the fruit trees of nourishment by their extending roots, and by shading them. If the walnut trees are not so near the fruit trees as to injuriously shade them, then we should dig down and see about the roots; if they come into the territory of those of the apple trees and vines, cut them off and give the fruit trees a dressing of manure.

Vegetable Marrow and Pumpkin.—"P. W.," Yonkers, N. Y. The probabilities are that these will mix, though we are not sure. We do not know what you mean by "Turks-cap," unless it be the Turban Squash. See article on seed raising in July.

Brown Spots on Currants.—"S. O. C.," Yonkers, N. Y., sends samples of currants upon which are brown spots, and wishes to know what they are. The magnifier shows these spots to be so like the oyster-shell bark-louse that we think they must be the same. This louse ordinarily fixes itself to the bark of trees, and that it should attach itself to so perishable a thing as a currant shows a lack of knowledge in the insect. "S. O. C." should examine his apple and pear trees and the limbs of his currant bushes, to see if he is not badly troubled with the bark-louse. They must be very abundant if they attach themselves to currants.

An Important Nursery Sale.—Mr. D. D. Buchanan offers for sale at auction on the 28th of Sept., at Elizabeth, N. J., the stock of the well-known Reid's Nurseries. These nurseries were established by the late William Reid, long known as one of our most correct and conscientious pomologists, and their destruction to make way for city improvements, while it is to be regretted, is unavoidable. The sale will afford a fine opportunity to procure specimen plants.

American Preserving Powders.—In answer to several inquiries we refer to the advertisement, testimonials, etc., in the July number.

Protecting Cabbage Plants.—"J. S.," Hopkinsville, Ky., says that sprinkling wheat bran over the young plants will cause the insects to "vamose."—Query. Will not any powder do the same? We judge so from the various inert things that are recommended. We use plaster, which we suppose is inert as far as the insects are concerned, but it answers the purpose and probably serves as a fertilizer.

Fall Planting.—R. M. Leggett, Boone Co., Mo., asks if "grapes, raspberries, etc., can be set as safely in the fall as in the spring."—Yes, we prefer fall planting for all hardy plants in localities where the winters are not severe. One has more time, the plants can be had in better condition, and if set during the late autumn, they get well established and ready to start in the spring.

Plants Named.—J. F. Knight, Marion, Ala. The specimen is the *Amelanchier Canadensis*, called June-berry, Shad-bush, and Service-berry. It is a very variable plant in its wild state, there being some half dozen varieties. We have seen plants which produced decidedly pleasant fruit. It would be worth your while to try what you can do with seedlings...."Subscriber," Wayne Co., N. C. Specimen too young to determine with accuracy, but probably the Nut-grass, *Cyperus rotunda*, var. *Hydra*. We know of no specific for getting rid of this, other than hoed crops...."R. S. K.," Towanda, Pa. The shrub is False Indigo, *Amorpha fruticosa*, and is sometimes cultivated as an ornamental shrub. Your Kansas friend was wrong in the description....C. N. Pratt, Windsor Co., Vt., sends two of our beautiful Orchids. The one with several flowers is *Calopogon pulchellus*, and that with a single flower is *Arethusa bulbosa*. These have received no common names but their botanical names; the first or generic ones at least are not difficult to remember. Mrs. G. P. Johnson, Lake City, Minn., also sends the *Calopogon*....Luther Purdy, Holmes Co., O. Spiderwort, *Tradescantia Virginica*, wild at the South and West, and at the East very common in old gardens....Mrs. "L. H. M.," Bingham, Mich. Apparently a semi-double variety of the Peach-leaved Bellflower, *Campanula persicæfolia*....V. Devinny, Denver, Col. Terr. The Columbine is not *Aquilegia glandulosa*, but a more beautiful one, your native *Aquilegia cærulea*, the most charming of all Columbines. What you call Rocky Mt. Honeysuckle is apparently an Astragalus of some kind. Send us the seed-pods...."G. S.," Slatersville, R. I. Queen of the Prairie, *Spiræa lobata*, of which there are several garden varieties, differing in the color of their flowers....M. R. Allen, York Co., Me. No. 1. Arrowwood, *Viburnum dentatum*. No. 2, too imperfect. No. 3. *Diervilla trifida*, or Bush-Honeysuckle...F. Williamson, Ottumna, Kansas. Leather-flower, *Clematis Viorna*. It bears hairy fruit later in the season.

The Canker Worm.—"Subscriber," Wellesley, Mass. We have about exhausted this subject in articles in previous years. The whole story is this. The females which lay the eggs that produce the mischievous worms are wingless. Whatever will prevent these from ascending the tree will save you from their ravages. It sometimes occurs that they ascend in autumn, but they generally leave their chrysalis condition in the ground in early spring. Some obstacle must be interposed to their ascent, and we have in former volumes given several. We cannot commend coal tar directly applied to the tree, as we fear it would prove injurious. The efficacy of all the preventives to the ascent of the parent of the canker worm depends upon frequent—almost daily—personal attention.

Golden Queen Strawberry.—"P. W.," Yonkers, N. Y. The Golden Queen from Rochester is so near like the old Trollope's Victoria that good judges are unable to see any difference. When you get one as large as a hen's egg we will come and see it.

The Charles Downing Strawberry.—An annoying error of figures occurred in the August number in a notice of Mr. Doty's results with this fruit. Mr. D's receipts from the bed 30×30 should have been put down at $33.67, instead of $208.25, which makes quite a difference.

Oats upon a Head of Wheat.—A. Robinson, Blue Earth Co., Minn., sends us a head of wheat upon which there are two grains or husks of oats attached in a manner to readily deceive one who did not make a thorough examination. We had seen such things before, and upon carefully removing the wheat and chaff it turned out as we suspected. The slender stem which supported the oats had in some way become drawn into the head of wheat. All familiar with the structure of a head of wheat know that the stem where it passes through the head is zigzag, and that the grains set closely in the notches. The slender stem of the oat having been drawn tightly into one of the notches and behind the grain, it rendered the deception very complete; but a careful examination showed no attachment whatever between the oats and the wheat stem.

The American Pomological Society.—The following circular has been issued by the executive officers. "Dear Sir: The next regular meeting of the American Pomological Society will be held in Philadelphia, on the 15th of September, 1869, and *you* are hereby specially invited to assist in furnishing information upon any point that may appear to you important connected with the objects of the Society—by the promotion and gathering of pomological knowledge. You are particularly invited to make notes from time to time of the period of blooming, the period of setting, of coloring, ripening, etc., etc., of any and all fruits. You are also invited to note any disease that may appear, its period of attack, general appearance, length of duration, and results of injury. These, with such other items of practical observation which you may consider likely to subserve of valuable aid to the Society, you are earnestly invited to forward to the Secretary, F. R. Elliott, Cleveland, Ohio, on or before September 1st, 1869. You are also invited to send samples of any *new* fruits that you may have or can obtain, from time to time, as they ripen during the season, to the said Secretary. Such small package samples will be transported by most of the Express Companies free of charge, by explaining the object to the Agent. Marshall P. Wilder, Pres., F. R. Elliott, Secretary."

Blue Thistles.—"Howard," Charlottesville, Va. We suspect that this is not a thistle at all. If not too late, send a specimen. From the description given in your letter it cannot be the Canada Thistle.

Yield of Corn in Iowa.—J. E. Darby, of Madison Co., Iowa, expresses his surprise at the statement made by Walks and Talks, that the premium crop of corn in Ohio last year was only 51 bushels per acre, and that after heavy manuring. We may remark here that this statement was pronounced incorrect by a prominent member of the Ohio Board of Agriculture, but after investigation he admitted that W. and T. was right. Mr. D. says: "I have lived in New York and Ohio, and have farmed some ten years in this State. That amount would certainly be nothing more than an average yield here with very ordinary cultivation. I have noted the average of nearly every crop I have raised in this State, and with the exception of two years, one a very wet, and the other a very dry season, when the yield was about thirty bushels, my average has been nearer sixty bushels per acre than fifty, and this without manure, though manure does as much good here as elsewhere. Perhaps if your readers saw this statement they might be induced to leave the 'stones of Western New York,' and the stumps and swamps of Western Ohio, and try the windy prairies of Iowa."—We are always glad to present such facts. Nevertheless, we are satisfied that farmers need not be discouraged from attempting to get out the stones or remove the stumps, or drain the swamps, or undertake any other improvement of their present farms, because there is richer and better land in some other section. We would dissuade no one from going to the rich land of Iowa. We merely want to urge those who are there to improve their farms and not leave them because they hear of better land elsewhere. Our agriculture lacks stability.

The Hay Crop in Connecticut.—Mr. H. S. Collins writes us that the yield of hay this season is less than for the last two years. "That cold winter killed the clover and other filling, leaving the grass thin. I must plow up and re-seed. We are not on natural grass land here, but my grass usually averages from 2 to 2½ tons per acre. This year I fear it will be not over 1½ tons. I cannot put up with *that*. Fields cutting 3 tons per acre dropped to 1¼ tons at once. I am sowing more tall grasses. Fine grasses do little on my land except on two drained pieces. But of rye grasses, orchard grass, timothy, and *tall meadow oat* grass, I can get large crops and steam them to advantage."—We think this a valuable idea. When all the fodder is cut up and steamed for the cows, with more or less meal, it is probably more important to secure a large crop of grass of even a rather inferior quality, than to get a small crop of a better quality. Where cows are kept on hay alone, without steaming, quality is more important than quantity.

Right and Left-hand Plows.—We continue to receive a great many letters on this subject. Most of the writers are in favor of the left-hand plows. We have no sort of objection to them. We presume they are just as good and just as convenient as the right-hand plows, but after reading all that our correspondents have said on the subject, we are not prepared to advise our readers to throw away all their right-hand plows. If we lived in a section where left-hand plows (that is to say, plows having the mouldboard on the left side of the plow) were used, we should use them, but as the writer has always been accustomed to right-hand plows, and can manage to turn a very fair furrow with them without any special difficulty, he sees no urgent reason for changing.

A Pig Lot at the South.—A Northern man who has purchased a plantation in Mississippi writes us: "How to map out a pig lot is one of my present anxieties. What will do North will not quite do for this climate."—We cannot help him. Better adopt the method of the country and improve it, rather than to strike out a new plan at first.

Floors for Cow Stables.—A gentleman in Connecticut, who keeps a large dairy and soils his cows, writes us: "I am exercised about a cow stable floor. Cement will freeze some cold snap and then scale. Is there no mixture of coal tar, ashes, etc., that will answer better and not be so strong smelling as to suffocate my animals? No ordinary coal tar concrete used on our walks would answer, but I am sure some mixture could be made that would do well. Chestnut planks rot in two or three years, and are expensive."—One of our editors paved his cow stable two years ago with stones, but as they were not evenly laid he drew into the stable a quantity of rather clayey soil and pounded it firm all over the floor where the cows stand, giving a gentle slope towards the back of the cows for the liquid to drain off. As he lives in the grain growing district he has plenty of straw for litter, and in his case this floor answers a good purpose. Stiff clay, put in wet and thoroughly pounded, will, when dry, make a floor almost as hard as a brick, and if it wears in holes where the cows stand, it can easily be patched up with more clay and pounded in. He does not know of any cheaper or better material for floors.

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Having increased the size of this Journal to 44 large pages, with the beautiful cover upon each number, the last point of *cheapness* would seem to be reached. But for the sake of securing *at once* the proposed **250,000** subscribers for **1870,** we now put in an *extra premium* to **every** new subscriber received during September, as follows:

3 Months Subscription for $00.00.

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☞ The above offer will positively expire on Sept. 30, except in the few cases where subscribers are too distant to respond by that date. The names had better come right in at once, so as to be properly arranged before the next paper is ready for mailing.

Drouth Better than too much Rain.—A Kansas correspondent of the Country Gentleman writes: "Still it rains—it will average a rain every hour. My hay all rotted, barley has sprouted, and wheat is sprouting. Oats cannot be harvested. This all happens in dry, parched, sun-scorched Kansas, and it has been so nine out of twelve years. Give me a drouth; I can do better farming in a drouth than in a flood."—This is the true doctrine. It is what we have always asserted. We can do much to guard against drouth, but comparatively little against too much rain and too little sun. Underdraining will help, but we can do nothing without solar heat. The sun is the great motive power in farming; and yet from the complaints we usually hear, one would think that drouth was the greatest of agricultural calamities, while in truth a good farmer rarely suffers much ultimate loss from a dry summer. Some crops may suffer, but others will do well, and at any rate it gives him a good opportunity to destroy weeds, and get his land into good order for the next year's crops. Stock, especially sheep, "do better on roast meat than on boiled." The farmer will never be independent of the season, but he can do much to guard against the injurious influence of unpropitious weather. Fortunately the means best adapted to secure good crops in a wet season are precisely the means necessary to avoid the ill effects of a drouth. Underdraining is the first step, and thorough tillage and the destruction of weeds the next. No matter what the season may be, a well-drained and properly worked farm will always produce the best crops. But the good farmer will always do better in a dry season than in a wet one, and hence it is that we contend that our climate is admirably adapted for agricultural pursuits. The lot of the American farmer is fallen in sunny places. Never let us complain of drouth and heat.

Beecher's Sermons.—The sermons of the Rev. Henry Ward Beecher are published by J. B. Ford & Co., each week, in a neat form, convenient for reading and for preserving. We do not feel that we are advocating any particular sect when we commend Mr. Beecher's sermons. Mr. Beecher belongs not to any one denomination, but to the world, and men of all beliefs claim their share in him. When a large mind, coupled with a large heart, and both joined to a large body, speaks, one may be sure that there will be something worth hearing. It is remarkable that the sermons of one who has so much personal "magnetism," and who enchains his audience so completely, are so thoroughly enjoyable when read without the charm of the speaker's voice. In our corps we have some four or five widely different denominations represented, and they all unite in this commendation of Beecher's sermons. We sometimes wonder whether Mr. Beecher is greater in the pulpit than he is out of it. We enjoy an occasional visit to his church, but we still more enjoy his too infrequent visits to our office. If one is sad, he touches his sympathies. If one is jocular, he can find no one more ready to join him than H. W. B. Does one wish to talk horticulture, agriculture, art, literature, or religion, there is the same readiness. It is largely to the fact that Beecher is cultivated in all his faculties, and not a one-sided man, that his power is due. Let a naturalist try to catch him and he is ready for him. Let a Wall Street Broker take him up, and he knows all about Wall Street. He can talk to the boys at West Point or address a Peace Society, deliver a better horticultural address than any one we know of, and the next day preach a sermon worth hearing, worth printing, and reading and preserving and reading over again. We expect to get overhauled for what we have said, for our friend is—contrary to the general belief—a modest man. Let us have more Beechers.

Draining without Outlets.—E. N. Leighton, Lynn, Mass., wants to drain a lot (50 ft. by 100 ft.) without the expense of digging a drain across adjoining property. There is one chance in a hundred that he may be able to do it. If a well, dug early in the spring, will not be filled to within a few feet of the top during the wettest weather, then, by digging or boring deep holes at distances of 20 feet from each other, and filling them to within 2 feet of the surface with small stones, the drainage may be made complete. This system will work only when an impervious subsoil is underlaid by a very porous under stratum *which has a free outlet,* so that water will *at no time* remain in it. Soils so circumstanced, no matter what may be their character, are almost always well drained naturally. Porous under strata usually have no outlet, and are themselves gorged with water in wet seasons, so that by tapping them we are more likely to get water than to get rid of it. If the bore-drain plan will not work,—and generally it will not,—there is nothing to be done in the case but to get an outlet, for without an outlet a drain is like a barrel without a spigot; you can get water into it, but cannot draw it off, and an underdrain, whether made of stone or of tile, filled with stagnant water, is worse than no drain at all.

Liming Sandy Soils.—"H. J. L.," Alpine, Ga., asks: "Does it pay to use stone lime as a fertilizer on sandy soils? How much should be used, and at what season applied?"—On light sands with little organic matter, lime may be used if applied in composts with other enrichment. Mix 10 bushels of lime, slaked with brine, with 40 loads of swamp muck or peat, leaf mould or sods, and the whole with barn-yard manure in any desirable quantity, and the lime will be found a great benefit to the manure. Or turn in a green crop whenever you can get one and put on 10 bushels to the acre with it. We would not advise using lime by itself on poor, sandy soils. There must be plenty of organic matter or clay in a soil to make lime pay, except in very small quantities—say 5 bushels per acre, every few years.

Potashes.—We learn from our old friend, Titus Oaks, who has handled a good deal of potashes in the course of his life, that the last potash establishment in the State of New York or eastward stopped work a year ago. A small business in ashes is done by country soap boilers, but soda ash has taken the place of potashes in soap-making to such an extent that house ashes are no longer sought for by them to any great extent. The result is that ashes return to the soil. They are either retained upon the farms that grew the wood, or are sold to farmers who collect them, paying cash or exchanging soft soap as the soap men used to do.

Spreading Manure.—A. Reynolds, Davisville, R. I., (referring to our statement that the best way to store manure is to spread it evenly on the surface of the ground where it is to be used), asks whether this statement refers to all seasons of the year. It does, although probably there would be a slight loss by evaporation during very dry and hot weather. Even then, however, it is probable that the loss would be less than either in the barn-yard or the manure heap. The formation of ammonia—the escaping value of organic manure—is checked as soon as by spreading it is prevented from *heating*—as only under the influence of *heat* is ammonia developed to any considerable extent.

Dry Tan-bark as Manure.—H. M. Maxwell asks: "1. Has dry tan any virtue as a manure? 2. Is it improved by mixing with stable manure? or, 3, is the manure so mixed deteriorated, and the tan not improved? 4. Is the addition of salt any help to it?"—*Ans.*—1. Yes. 2. Yes. 3. The mixture should be made and laid up where it will heat somewhat and the whole undergo a steady fermentation, being frequently wetted with manure water. 4. It is difficult to speak positively about salt; a small quantity in a compost is usually beneficial.

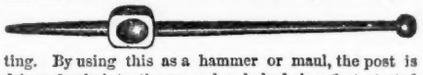
Chester Whites vs. Yorkshires.—We need large sows to breed with small, high-bred boars, that their progeny may be large and inherit hearty digestive powers and great vitality from the dam, while at the same time they have the small heads and bones, little offal, and quick development, from their sires. The Chester Whites are a coarser breed than the Yorkshire or Jefferson Co. breed; they are of about the same size, and probably as much hardier and tougher as they are rougher; they are well clothed with hair, while the Yorkshires are nearly naked; and on the whole we prefer them for common uses, especially for producing a stock of large breeding sows to be crossed with the finer breeds, for 6 to 12-months-old pork.

Essex versus Berkshire Swine.—"Avoca." "Where does the Essex claim superiority over the Berkshire?"—The champions of these breeds claim for them similar characteristics, though the Berkshire makes much the larger hog. In economy of feeding, smallness of offal, and quick maturity, we doubt if the Berkshire, good as it is, ever excels the Essex, though isolated cases may perhaps occur where from the larger size a smaller percentage of offal will be found.

Poultry Stock.—An Important Change.—G. H. Leavitt, of Flushing, L. I., a well-known breeder of improved fowls, has now disposed of his stock of poultry to Mr. G. H. Warner, of New York Mills, N. Y., President of the N. Y. Poultry Society. It does not often happen that two select stocks are thus united, and poultry breeders throughout the country will be glad to learn that Mr. Leavitt's stock has passed into such good hands as those of Mr. Warner.

Hogs Eating Hen Dung.—"N. W.," of Bucks Co., Pa., writes, that noticing that his hogs were ravenously fond of hen dung he threw them a basket of corn, and one of hen manure immediately afterwards. They left the corn at once, and devoured the latter. He asks, "Is it probable that they would eat the manure if it was not good for them? How does it affect them? Will it destroy worms? Will it prevent hog cholera?"—Hen dung is very rich in phosphates. Hogs grow very rapidly and have use for this material for building up their bony frames. We think their food does not, as a rule, contain a due proportion of phosphates, and that were we to add ground bones in some form to their feed, they would do better, and were "N. W.'s" hogs to be so fed, they would soon lose their abnormal appetites.

Bar for Setting Hurdles.—On page 333 is a description of a neat hurdle or portable fence for confining sheep upon rape, turnips, etc. The bar used for setting the posts as there described is shown herewith. It is a light crowbar about 3 feet long, with an enlargement within a foot of one end, having in it a shallow, cup-shaped cavity, which fits upon the top of the post, and has a tendency to contract it and keep it from splitting. By using this as a hammer or maul, the post is driven firmly into the ground, a hole being first started with the point of the bar.



Nets for Unloading Grain.—Where the Heading Harvesters or "Headers" are used, the grain heads must of course be handled loose. S. W. Glenn, of Leeland Co., Mich., inquires about nets used for unloading by horse power, how they are made, etc. Nets are used for unloading header-cut grain, and we would like to learn the size of the cord and of the mesh, the size of the nets and of the rope which forms their outer edges, and the number commonly used upon an ordinary load.

Drains Near an Osage Hedge.—"W. J. F.," Chesterfield, Ill., wants to lay a tile drain under an old Osage Orange hedge, and asks if the roots will choke the drain laid 4 feet deep.—*Ans.*—It depends almost entirely upon the amount of water that flows through the drain. If it runs several months at a time, the roots will probably find it out, and be likely to fill it. If, however, it only runs during and after rains, there will be little danger. The difficulty may probably be avoided by laying the tile in cement,—at least cementing the joints for a rod on each side of the hedge.

Roots in Drains.—Linvill Ferguson, of Bentonville, Ind., has had difficulty from the choking of his tile drains by the roots of trees and even of wheat, and he fears the same trouble in a new vineyard. There is no absolute remedy for this if the drains carry water at all times, but the deeper they are placed the less the danger, and it is not likely that the roots of wheat will ever reach 4-foot drains. The roots of trees sometimes will, but not nearly so soon nor so frequently as they will those only 2½ feet deep, which seems to be the depth of those complained of. On any land that is fit for vine planting, 4-ft. drains will not be troubled by the roots of any but water-loving trees, and these should be excluded from the vicinity of a vineyard for more reasons than one.

Substitute for a Boy.—Fence Making.—Mrs. M. C. Ross, of Warsaw, Ill., writes: "My husband, having some fence to build, and no one to assist him, a neighbor remarked that he ought to have a boy to hold up one end of the boards, but having no boy, he set his wits to work to make a substitute. Taking a piece of 4-inch board one foot in length, with a 1¼-inch augur, he bored holes, one 2 inches from one end, and the other 4 inches from the other, split the holes out to the ends, and trimmed the slots smooth. After the bottom plank was nailed on, the longer legs were "straddled" over it, ready for the next plank to be laid in its arms. This held one end while he nailed the other, and possessed one advantage—it never tired, and kept the boards an uniform width apart.

Live-stock in Ohio, 1868 and '69.—From a "Tabular Statement" from the office of the State Auditor, exhibiting the numbers of live-stock returned for taxation from each county, we deduce the following: There has been a gain of 4,203 horses, a decrease of 20,085 cattle, of 391 mules, of 1,416,205 sheep, and of 357,629 hogs.

Connecticut Agriculture.—We have received from Mr. T. S. Gold, Secretary of the Board of Agriculture, his report to the General Assembly for 1868. Besides the matter usually found in such documents, it contains the reports of interesting discussions, lectures, and essays on grass lands, pastures, meadows, etc., which gives the volume especial value. Besides, the now famous report of Professor Johnson on sundry samples of fertilizers taken in the open market and submitted to his analysis is contained in this volume. The book ought to be for sale, and so ought every one of its class. Few people value a book that is given away. At a price that would cover the cost, and a little more, ten times as many would be read.

How to Keep Milk Sweet.—"Subscriber," of Salt Lake City, asks: "Is there any harmless article which may be put into milk to keep it sweet longer than it would keep of its own accord?"—Common bicarbonate of soda—cooking soda—is sometimes used in small quantities, but it is hardly advisable, as it forms an excess of lactate of soda. Cooling the milk rapidly, as soon as drawn, to a temperature of about 60° or less if convenient, will accomplish the same end.

Samuel F. Headley.—Col. Samuel F. Headley, of Morristown, N. J., died at his residence July 25th, in the 62d year of his age. In the sudden death of Col. Headley, the cause of Agriculture, the *American Agriculturist* and its readers, sustain a heavy loss, which comes home to the editors and publishers of this journal as a personal bereavement. We have long known Col. H. as a thorough farmer and a careful and enthusiastic breeder, a close observer of nature, a man of broad views and excellent judgment, of great industry and an indomitable will. He had remarkable business shrewdness and tact, a great knowledge of men, and quick discernment. We valued his friendship greatly, and his honest criticism was as acceptable as his praise. Col. Headley was educated a lawyer, studying with Judge Grier of the U. S. Supreme Court. He practiced his profession successfully for many years, was influential as a politician, and had the confidence and friendship of many distinguished men of both parties. Earnest in pushing all improvements, he accepted the superintendency of the Morris & Essex Railroad in 1854, and afterwards of the N. Y. & Erie. At the time of his death he owned seven farms, most or all of which were conducted under his personal supervision. He was the first to introduce Improved Short-horns (Durhams) and Berkshire Swine into N. E. Pennsylvania, and always took great interest in improving the breed of horses, keeping fine stallions and jacks, the services of which he shared with his neighbors at merely nominal charges. Of late years he has taken much interest in the Chester Co. breed of hogs, and has been engaged for some time in collecting facts in regard to swine, with a view to publish a hand-book on the subject. He built, as owner, five grist-mills, and was besides at one time largely interested in iron mills and manufactures. His usefulness was not confined to profitable business matters, and he was no less enthusiastic and energetic in showing his interest for all good objects, for the Church of Christ, the temperance reform, the Sunday-school cause, etc., etc. His place can not now be filled, and he will long be remembered to be honored and mourned.

Questions for Maple Sugar Makers.—A Vermont sugar maker, who signs himself "Young Farmer," asks through the *American Agriculturist* the following questions: "1. Is it best to use a large augur or a small one? 2. Is it best to put one spout to a tub and two tubs to a tree? or two spouts to a tub and one tub to a tree? 3. What is the best form of spouts?"—The maple sugar crop is one which is, though not large, of great value to the country, for it is a home product, costing little labor, employing it at a season when it is not demanded for other farm purposes, and one which may be greatly increased, made a reason for preserving and cultivating forests, and causing now unproductive rocky hill-sides to be planted with sugar maples. We are glad to encourage maple sugar making in any way, and hope our young farmer may receive numerous responses from practical men.

Agriculture in the Literary, Political, and Religious Press.—While the "Farmers' and Gardeners' Column" in many newspapers nowadays is a delusion and a snare, a confused jumble of scissorings, and chiefly useful as a source of amusement, and as an evidence to farmers that their dollars are acceptable to the publisher, who thus pats them on the back, yet in others it is very well conducted, and one whose business it is to be familiar with current agricultural literature cannot ignore the fact that some able writers thus find employment for their pens. Witness Mitchell's articles in the Atlantic, awhile since, Elliott's in the Galaxy monthly, Olcott's in the Connecticut Courant, and a host of others we might mention. As a sign of the times it is most significant. The agricultural press was never half so well conducted nor so influential as today—perhaps, in a measure, because its best productions are so widely circulated by being copied into the farmers' columns; perhaps, also, because the necessity is felt to show itself superior to those, so to speak, non-professional writers, whose agricultural ideas are mutilated in the daily and weekly newspapers. At any rate, we re-

joice in every true word that is written to favor progress and extend knowledge in agricultural and kindred matters. Much, however, that is written, deserves severe criticism, and but for the fact that there is so much of it, many of the "Farmers' Columns" would be well cut up; as it is, the agricultural papers have no time either to commend or condemn.

"Tame Grass" for the Minnesota Prairies. — John O. Olen, Freedom, Minn., says: "Please tell us which is the best tame grass for the Minnesota prairies. Soil black, 2 to 4 feet deep; clay subsoil."—We have great faith in red clover and timothy, but never having lived in Minnesota, there may be something more highly esteemed there. If the timothy grows too rank, cut it the earlier. The clover will give you but two crops, one a full one, the second small, the timothy taking the lead, and with other native grasses holding the soil for some years, and making excellent hay.

Stocks for Cherries. — "E. Y. T.," Richmond, Ind., writes: "Much has been said as to the comparative merits of the Mahaleb and Morello cherries as stocks for working the improved varieties upon. I have quite a number of trees bearing this year, near a bushel each, about one-third of them on Mahaleb and balance on Morello stocks, and we can see no difference in the productiveness of the trees. A neighbor who has a few Early Richmond on Mazzard stocks in his orchard, with others on Mahaleb and Morello, finds the trees on Mazzard to produce only a dozen or so cherries each, while those on Mahaleb and Morello yield near a half bushel each, the age, soil, and culture being the same."

"Pear Culture for Profit" is the title of a work by P. T. Quinn, which is published by the N. Y. Tribune Association. When one has been at work upon any one thing, and has seen, so to speak, its "ins and its outs," we like to hear what he has to say. Hence it is with no ordinary pleasure that we have read Mr. Quinn's work. Mr. Quinn does not come forth as a pomologist and discuss the minutiæ of varieties; he sensibly leaves that to others, but he does in this work tell how he grows pears and how he has made them profitable. We have long known Mr. Quinn as a pear-grower, and we have every confidence that what he may say is true according to his experience. The work will of course soon be in the hands of all pear-growers; but we quote as very timely the following instructions from his chapter on packing and marketing the fruit.

"Fruit does not differ from other articles of merchandise; its good appearance goes a great way, and 'covers a multitude of sins.' Choice specimens should not be placed on the top of the barrel; for purchasers usually 'empty packages,' and if the fruit grows smaller in size and inferior in quality as the bottom is neared, every one knows to what decision the buyer will come. That brand will not be sought for by the same party the second time. On the contrary, if the fruit is uniform in size throughout the barrel, not only is the same brand bought again, but it becomes known in the market; it will always command the highest price, and will sell readily, when the same kind of fruit, carelessly packed, is comparatively worthless.

"In every case, no matter how small the quantity of fruit to be sold, pack in clean, sound barrels or boxes. It is certainly poor economy to save ten cents in buying a second-hand flour barrel, when you are sure to lose more than five times that amount on the price of the fruit, by having it packed in a soiled barrel instead of a new one.

"When the fruit attains the proper stage of ripeness for shipping, pick the pears by hand and put them into baskets. Then take a barrel, turn it upside down, and remove the bottom by driving off the hoops. Place some cheap white paper inside over the lid and around the sides,—fruit looks better when the barrel is thus lined. The pears are then laid on their sides closely together, until the top of the barrel is covered. A second layer is added, in the same way as the first. Continue in this way until the barrel is one-third full; then shake gently so that the fruit will settle without being bruised. This shaking should be repeated several times until the barrel is full, when the pears should be in such a position that the bottom of the barrel, when pressed in, may come in direct contact with the last layer. The hoops should then be put on, and four small nails driven through them, to keep them and the bottom in place. The barrel may be marked 1, 2, or 3, so that the consignee may know the quality of the fruit without opening each package; although he should always be advised by mail of the number of packages and the quality of the fruit shipped.

"We send the larger part of our pear crop to market, packed in new half barrels, and, as a general rule, it commands a higher price in these packages, especially if the fruit is very choice.

"The retailer, fancy fruit-dealer, and hotel keeper, buy these packages in preference to the larger ones. If half-barrels are used, pack the fruit the same as in barrels.

"When the cover is taken off from pears packed in this way, each pear lies close in position, the appearance presented is inviting to the purchaser, and the highest market price can be readily obtained for them. It requires only a very little practice to become quite expert in packing fruit in the way described. When baskets are used, they should be lined with white paper, and the pears laid in carefully. Shake the basket gently, occasionally, so that the fruit may settle, and fill the basket a little above the rim; then put on the covers and forward the fruit with as much care as possible to its destination.

"It is not desirable, however, to send fruit in small baskets, unless the grower delivers his own fruit to the dealer. In sending baskets by railroad or steamboat, the fruit will be stolen from the baskets, and it is a difficult undertaking to get redress from such corporations for losses of fruit."

We have given an unusual space to this matter of packing fruits, but it is the point upon which the success of all fruit culture depends. We might have quoted Mr. Quinn's whole chapter on packing fruit, but we have given enough to show its sensible tenor. Mr. Q., with that modesty which is characteristic of those who are born in the Green Isle, has until now abstained from putting his valuable experience into print. We gladly welcome his first effort, and hope that he will not feel satisfied with this, but give us other practical works.

A Word to Farmers About Selling their Produce.

Farmers are often blamed for not selling their produce as soon as it is ready for market. And it must be confessed that those who do so, taking one year with another, do quite as well, all things considered, as those who hold on in hopes of getting higher prices. They obtain their money soon after harvest, and are enabled to use it to advantage. Dealers in grain can obtain money much more easily than farmers, and can consequently hold the grain longer.

While, therefore, we think farmers often do better by selling early, there is still room for the exercise of judgment. One reason why it is usually best to sell early is, that most farmers are disposed to hold on to their grain as long as possible, and when the time comes that they *must* sell, there are more sellers than buyers, and the price declines.

It is a curious fact that people generally are more inclined to sell when prices are low than when they are high. When wool was 80 cents a lb., it was more difficult to induce farmers to sell than when it was 40 cents per lb. Last fall, with red wheat at $2.25 in the interior of Michigan, farmers hesitated longer in making up their minds to let their crops go than they did last summer when they were offered $1.25 for the same wheat. It is a good rule to sell when you can get a price that will afford a good living profit. Farmers, at the present time, would have been richer by millions of dollars than they now are had they adopted this rule last autumn. We know of a great many who sold wheat this summer for one dollar a bushel less than they refused for it last fall. The whole nation suffered greatly by this indisposition to sell when a good price could be obtained. We might have shipped all our surplus wheat to England at a fair price, but by holding on we lost the opportunity, and finally sold at a price below the cost of production. We should take the lesson to heart.

On the other hand, when prices are low, we should not be in a hurry to sell. Sound wheat is an article that will keep, and it is an article that is always required, and it is absolutely certain that it cannot long remain at a price much below the actual cost of production. We cannot hold out hopes to such farmers as grow only ten or twelve bushels of wheat per acre, that they will obtain prices sufficient to compensate them for their labor. The country must be in a very unsatisfactory condition when such is the case; but we do firmly believe that there is no reason to doubt that a farmer who raises good crops is safe in calculating that sooner or later he will be able to obtain such a price for his wheat as will enable him to make a fair profit.

There is one fact in this connection that should not be overlooked. In a cool, wet, late season in England, the wheat crop is always below the average. And they have had such a season the present year. On the other hand, it is very doubtful if the wheat crop of the United States is as large as was anticipated. We feel tolerably certain, therefore, that before another harvest, wheat will bring a price sufficiently high to afford the wheat grower a good living profit. He should be satisfied with this. He should be in no hurry to take less.

The question arises: What price should we obtain for wheat, to afford us a fair profit? At the present price of implements, machines, and other necessary articles, not forgetting labor and taxes, we shall not obtain extravagant profits if we sell good, sound red or amber winter wheat—say in Michigan—for $1.50 per bushel. A farmer who raises anything less than twenty bushels per acre will not get very rich, even if he obtains, in our present currency, $1.75 for red wheat, and $2.00 for choice white wheat. When we can get these figures in ordinary seasons, it is not safe to hold on too long; but when, immediately after harvest, the price is much below these figures, those who can afford to hold their wheat run very little risk of loss in doing so.

Death to Half-bred Males.

Many a man is tempted by the beauty and promise of a half-bred bull calf to keep him for the perpetuation of his good qualities. This would be very well if only there were any hope of his doing it with even tolerable certainty; but there is not. The result of using such an animal as a sire is generally most unsatisfactory. The cloven foot of a mongrel ancestry will constantly show itself in the most provoking manner, and there is really no safety, if we wish to improve our stock, except in destroying at least the virility of every bull calf that has not a *clean recorded pedigree*. We sometimes hear it said of an animal that "he carries his pedigree in his horns and in his hide." There can be no greater nonsense than this. The only pedigree of an animal that is worth anything is a positive knowledge that for many generations no strain of impure blood has been allowed to creep into his veins. This given, then seek for the most perfect development of every valuable quality; but without this, the highest type of outward appearance may be only a snare and a delusion. As a case in point, we know a grade Jersey cow,—three-quarters Jersey, and one-quarter Ayrshire—that, by a thoroughbred Jersey bull, had a calf which would have passed muster in a herd of pure Ayrshires. The strain of Ayrshire blood — itself thorough blood — for once asserted itself, and took possession of the field, although the earlier and the later calves of the same dam had all the look of the Jersey.

Commercial Fertilizers—Honest Dealers.

Many of us at one time or another have experienced extraordinary profit in the use of some kind of commercial fertilizer. We know that barn-yard manure, hen manure, bones, ashes, land plaster, and lime, are the stand-bys, but we are habitually short of these, at least of all but the last two, and the necessity for supplying their place drives thrifty farmers, as well as unthrifty ones, into the fertilizer market. Here we buy we know not what, as school-boys trade jack knives, on "unsight-unseen," trusting entirely to the representations of those who are interested to sell. If we get too little for our money there is no redress. We cannot prove fraud because the fertilizer does not fertilize our land, for it may be tried on our next neighbor's, and if it contains even one ingredient greatly needed, it may produce excellent effects. It is therefore very desirable that a traffic which is so necessary to the farmer, and in which there is almost unlimited opportunity for fraudulent dealing, should be conducted under reasonable checks. In Maine a recent law (for which, we doubt not, the farmers thank our excellent friend S. L. Goodale, formerly Secretary of the Board of Agriculture of that State), requires every manufacturer and seller to have the chemical composition of the fertilizer, so far as it concerns its value as a manure, stated upon the bag or barrel in which it is sold, and the parties are held responsible for the article coming up to the

statement. This, if faithfully carried out, accomplishes two things—the manufacturer knows what he sells, and the purchaser knows what he buys. In Connecticut another plan has been pursued. Here there is no intervention of law, but the Secretary of the State Board of Agriculture collects manures which he finds for sale, has them analyzed, and publishes their composition, price, and the value which the chemist's analysis indicates they possess. This makes a stir among the manufacturers and dealers, as might be imagined. They would not so much object to the publication of the analyses, but to come out and say officially that fertilizers which they sell at $55 to $60, or even $80 a ton, are not worth more than $18 to $25—this is too much; it is too easily understood. By some *hokus pokus*, a farmer might be made to believe that a lack of one component is counterbalanced by a great supply of something else, but when each ingredient has a value given to it and all the values are summed up and the worth of a ton set down, there is no escaping the verdict. The importance of having a correct verdict, just towards the manufacturer and liberal towards the farmer, is apparent. One maker has issued a circular, stating what the various ingredients cost him, according to which the price asked for his fertilizer would not be extravagant. What knowledge has the public that he did not pay or allow too much for them?

Let us try to arrive at a just valuation for the four substances that constitute the chief value of our commercial fertilizers. These are, 1st, Ammonia or available Nitrogen; 2d, Phosphoric Acid, in a soluble form, called Soluble Phosphoric Acid; 3d, the same in an insoluble form, called Insoluble Phosphoric Acid; and 4th, Potash. Besides, the value of a manure does not depend solely upon its chemical composition; other qualities are considered, for instance, its condition of uniform fineness, of dryness, that it may easily be handled and mixed with other fertilizers or with earth, and its freedom from weed-seeds, which last all should possess absolutely. The agricultural value of manure has nothing whatever to do with what is a fair price for it, except so far as the relations of supply and demand raise or lower the prices of all things. Each of the valuable ingredients has a fair market price. If the farmer chooses, he may buy and prepare for himself. It is fair that he should know as nearly as possible how he may supply himself with fertilizers at a less cost, if it can be done.

Ammonia.—The sources of supply to the market are few and limited. All common substances containing nitrogen may be regarded as supplying ammonia to the soil. Nitrogen in nitric acid, as it exists in saltpetre and nitrate of soda, may be used as a manure, but in this form is usually far too expensive. Peruvian guano contains 14 to 17 per cent of ammonia; good fish manure a little more than half as much—say 8 to 8½ per cent. Peruvian guano has, for many years, been the cheapest and best source of ammonia, and so it still continues. It contains, besides ammonia salts, about 2 per cent of potash, 3 per cent of soluble phosphoric acid, and about 12 per cent of insoluble phosphoric acid. To come at the cost of the ammonia we must deduct the value of the other things. Take 4 cents a pound as the value of potash, 4 cents as the value of the insoluble phosphoric acid, and 14 cents as that of the soluble phosphoric acid. A ton of guano contains about 40 pounds of potash, worth $1.60, 240 pounds insoluble phosphoric acid, worth $9.60, and 60 pounds soluble phosphoric acid, worth $8.40, altogether $19.60—call it $20. Peruvian guano sells now at about $80, currency, per 2,000 pounds; deduct $20, and we have $60, as the price of the 300 pounds of ammonia, making the ammonia 20 cents a pound. This is now a fair price for Ammonia or its equivalent wherever it occurs in commercial fertilizers.

Phosphoric Acid.—The commonest source of supply is bones. There are several "phosphatic guanos" and mineral deposits which may be bought either simply ground or "manipulated," and a vast deposit of phosphatic material, the remains of ancient animals, has recently been brought to light near Charleston, S. C. "Bone-dust," coarsely ground boiled bones, may be bought for $30 a ton, of 2,000 pounds. A ton of it contains on an average about 60 pounds, or $12 worth of ammonia, which makes the 450 pounds of insoluble phosphoric acid, which an average sample contains, worth $18, or 4 cents a pound.

Soluble Phosphoric Acid is made from the insoluble (bone) phosphates, by mixing them in powder with a certain quantity of sulphuric acid (diluted oil of vitriol). This adds both to the price and to the efficiency of the phosphoric acid. If we consider the cost of the soluble phosphoric acid to be three times as great as the other, 12 cents per pound would be fair, and any farmer may produce it for that price, if he will make up one or two tons of bones. However, as it forms a staple article of manufacture, and has to sustain the reputation of its maker, we add 2 cents per pound to this, and set down 14 cents as the value of soluble forms of phosphoric acid.

Potash is so widely distributed that it has only a moderately high agricultural value. As a fertilizer it hardly exists in market, the potashes of commerce bearing too high a price for them to be used as a fertilizer. Good potashes are worth 7 cts. per pound at wholesale; they contain not less than 75 per cent of real potash, which would therefore cost about 9 cts. per pound in this form. The available source of supply to the agriculturist is wood-ashes, and these contain other ingredients of value to the farmer, especially several per cent of phosphoric acid. We learn from a gentleman of large commercial and practical experience that a bushel of "house-ashes" weighs about 48 pounds on an average, and that several potash makers who have boiled lye for many years agree in the opinion that they do not yield more than about 4 pounds of potashes to the bushel, which would be 3 pounds of pure alkali. These practical men agreed within a pound or two in regard to the average weight of the bushel. One was from Vermont, one from St. Lawrence Co., and one from Buffalo, and their experience covers a period of 70 years down to one year ago. Ashes made in the open air weigh lighter, and hard-wood ashes contain much more potash than those of soft wood. The price per bushel for ashes has varied a good deal, but at 12 cts. per bushel, which has been and is a sort of standard price, we pay 4 cts. per pound for the potash and get the phosphates thrown in. Allowing 4 cts. per pound for the phosphoric acid, we can afford to pay as high as 20 cts. per bushel for good ashes, if we cannot get them less.

A good analysis of a fertilizer will show clearly the relative quantities of the substances we have considered. However, some analyses will state *nitrogen* instead of ammonia superphosphate of lime, or *soluble phosphate of lime* instead of soluble phosphoric acid, and phosphate of lime or bone phosphate or *insoluble phosphate of lime* or earthy phosphates instead of insoluble phosphoric acid. A good analysis, then, is the indispensable thing, and buyers have need to know that the analysis is a correct one, and this should be guaranteed.

We arrive, after these calculations, at the following scale of prices, which we believe to be liberal, both towards the farmer and the dealer in fertilizers. If the farmer really knows what he wants and gets it, he can well afford to pay the prices we give—while the manufacturer and dealer can invariably buy at so much lower rates, that we think if they buy well and sell at the figures we give, they will make handsome profits.

SCALE OF PRICES.

	Value.		*Value.*
Ammonia	20 cts.	Nitrogen	23½ cts.
Soluble Phos. Acid	14 "	Sol. Phos. of lime	8½ "
Insol. Phos. Acid	4 "	Insoluble Phosphate of lime, (less than)	2 "
Potash	4 "		

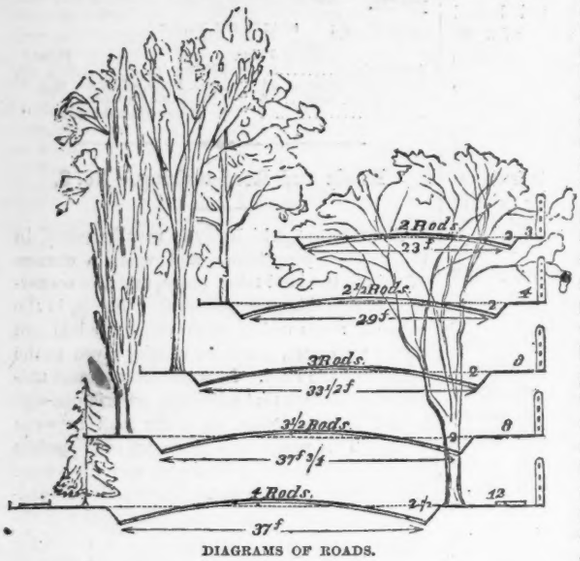
Roads and Road-making.—No. 3.

The title to the highway is usually vested in the original proprietors, and when a change of title in the land takes place, and the ownership of one side passes into other hands, in the case of roads which were originally laid out across an estate, deeds are usually given to the middle of the road. It is therefore almost universally the case that adjoining proprietors, separated by a highway, own the road between them. This property is given up to the public for the purposes of a highway, and the owner cannot obstruct this use. The width of roadway proper, the position and width of the ditches, the position of trees standing in the highway, etc., are not under the owner's control. All crops, however, grass, fruit, etc., belong to the proprietor of the land; they are not public property any more than if they were on the other side of the fence. All highways should consist of a road-way, or traveled path, of determined width, for wheel vehicles and animals, a ditch on each side of this where it is needed, or wherever it is possible to have it, and a fence strip on each side. The width of these several parts of the highway depends upon its total width, and upon the condition of the land through or over which the road goes, and within certain limits should be determined by law, or by vote of the town. In making or mending the roads these dimensions should be rigidly adhered to,—the side strips not touched, the ditches made no wider nor deeper than the rule requires, the track neither narrower nor wider. The gradual filling up of the ditches will afford material suitable for mending the sides of the road, but rarely such as ought to be used for the top, except where there is a great dearth of gravel. We are particularly strenuous about the side or fence strips being untouched, because where this is uniformly the case the inhabitants will take pride in keeping them well, cutting off the brush, removing stones, etc., grading them, and keeping them in grass, which should be either fed off close or frequently mowed. Landowners will take pride, also, in setting out trees near their dwellings at least; and frequently those will be found who will line the highways for miles with shade trees, provided they feel sure that the road-master will not order gravel to be dug under the roots, or the trees to be sacrificed for some whim of his.

The width of our country roads is usually established by law within certain limits. Still the commissioners will often accept, for the public, roads of any width, and as these remain unaltered, there can hardly be said to be any uni-

form width for country roads. We can hardly conceive it proper for a public highway to be less than two rods (33 feet) wide. Many roads are narrower, but even this width is inconveniently small if a road is much traveled. For merely practical purposes, a road two and a half rods wide is almost always wide enough. In thickly settled neighborhoods, if the traveled road be not less than two rods wide, as much space may be taken for side-walks, lawn, etc., in the side strips, as may be agreed upon.

The accompanying diagrams exhibit cross-sections of roads of different widths, from two



DIAGRAMS OF ROADS.

rods to four rods wide. They represent such roads as might be made through a rolling country, not liable to wash. The two-rod road is too narrow for shade trees standing in the highway. Space may very well be afforded them in the two-and-a-half-rod road, and in the broader roads they are almost a necessity, for a part of the use of these roads is their beauty, and they would look naked and dreary without them, if kept in good order. In the diagrams, we allow about two feet for the width of the outer slope of the ditches, and suppose the road to be so graded that it rounds up evenly from the center of each ditch. In the four-rod road, side-walks will be seen outside the belts of grass, which are 12 feet wide, and afford abundant room for forest or fruit trees, alternating perhaps with evergreens, which may be cut away after a few years if they take too much room.

Tim Bunker on Chips.

MR. EDITOR.—Hookertown is a pretty quiet sort of place, generally, but just now we are having a big swell in our waters, and it is all about chips. I wish we could have had the fellow that makes pictures for you up here yesterday; I guess he'd 'a died a laughing, and camphor wouldn't 'a brought him to. We haven't had such a time since my subsoil plow first came to town, and the great chip machine has taken the shine all off of that. If Mr. Hoppin could only put that on to paper, somebody would burst their waistbands, or I'm mistaken. You see, the way it happened was just this. Deacon Smith, you know, is a pretty cute man, and means to keep up with the times, and get ahead of them if he can. He got ahead of them about one generation, I guess, when he went into the peat speculation two or three years ago. It looked well on paper. Coal was thirteen dollars a ton on Hookertown street, and peat could be manufactured and sold for half the money, and make large profits. The Deacon bought a fifty-acre peat swamp, of unknown depth, and went in. By the time he got his machinery in, and got nicely to work, coal went down *kerchug*, like a bull-frog into a pond, clean out of sight. There was no trouble in making the peat bricks, and in burning them, but they would not sell at a profit when folks could get coal for six dollars a ton. So Tucker and Jones, Jake Frink, and the rest of that tribe, begun to laugh at the Deacon for his great peat failure. They thought the Deacon was flat on his back, and wouldn't come up again, but I knew he would. You see, Deacon Smith is the most sot man in town, believes in the decrees, and had no doubt that there was money in that peat bog for him, if he could only get at it. When the peat failed he thought of cranberries, because they grew in small patches all around the swamp. But to make a cranberry plantation, the whole surface had to be cleared of brush and bogs, and covered with gravel, which was a big job, and would cost three or four hundred dollars an acre. He got wind of a machine that would cut brush just as a hay cutter cuts up cornstalks. He thought he had brush enough to pay for the whole expense of clearing and planting, if he could only git it into shape to be handled. He bought his machine, got it into the factory he put up for peat making, and turned on the steam yesterday. It was like a huge cornstalk cutter, only a great deal stouter, and would cut off sticks three inches through, and make no fuss about it. They poked the brush right into the jaws, big end foremost, and the chips flew in all directions. The brush was all chawed up into the nicest kind of kindling-wood, in short order. The Deacon fairly laughed to see the chips fly.

"Give it to 'em, shillalah!" cried Patrick, as he brought on the brush and fed the machine.

"A great cracking among the dry bones!" said Seth Twiggs, as he took a dry chip and lighted his pipe at the fire.

Uncle Jotham Sparrowgrass poked his cane into the pile of chopped brush to see that there was no mistake about the chips. He admitted that he had never seen anything like it on the Island, but thought it wouldn't amount to much. "It's another of the Deacon's humbugs, see if it ain't."

Jake Frink, who had just come from the tavern, began to sing, "Molly, put the kettle on, We'll all drink tea." Mr. Spooner wanted to know if the chips would kindle coal fires as well as charcoal.

"Guess the old peat bog'll come to .suthing arter all," said George Washington Tucker.

"The Deacon is a master man to carry his pint," remarked Benjamin Franklin Jones.

"Yes," said Jake Frink, "but you could always carry a quart better than he could a gill."

"Charcoal has gone up," remarked Jones, maliciously, to a group of White Oakers, who looked on with mouths agape, as they saw the pile growing rapidly.

"No more charcoal wanted, I see," responded Kier Frink, for the company, as he pulled a soiled bandana from his hat crown, and wiped his nose. "This is jest the hardest world a feller ever got into. Jest as you git started in business, somebody comes along and knocks your heels right out from under you. Wood used to pay pretty well, but coal spiled it. And now they've got to making chips by machinery. Every old woman will be crazy after Smith's chips, and you can go the whole length of Hookertown street crying 'charcoal,' and not sell a bushel a day. White Oakers'll have to move away, or starve."

Nobody except Kier's company seemed to feel very bad at this prospect. The Deacon's figuring on chips looks very well, and he says they are already doing a good business in this line, over west of the river, where he got his machine from. He calculates that a brush swamp will yield from two thousand to seven thousand bushels of chips. It will cost about three cents a bushel to cut the brush and run them through the machine. They sell readily at eight cents a bushel, wholesale, and ten cents, retail. These chips are the best thing yet used for lighting coal fires, and are so handy in summer for making quick fires, that many will buy them who use their own wood for fuel. It costs less than to draw their own brush and chop it with an axe. Some are buying up cheap, rough lands covered with brush, just for the sake of the chips they will make, and they find it a paying business. If an acre yields five thousand bushels, the gross receipts, at ten cents a bushel, are $500, which will pay for a good deal of labor. If there is only four cents profit on a bushel, it makes $200 on an acre. The prospect for the White Oakers is by no means so gloomy as Kier Frink would have us believe. If they would stop cock-fighting and drinking rum long enough to buy a brush cutter, they might turn their rough lands and swamps to better account than growing wood for charcoal. A new machine only costs $1,000, and three horses will run it. But it makes better work with more power, and there are still plenty of idle streams. It not unfrequently happens that the swamp that furnishes the brush affords a brook quite large enough to turn the machinery. This machine will remove one of the serious obstacles to the growing of cranberries on peat bogs. These swamps are generally covered with brush, and often with a heavy growth of wood. It costs from $100 to $200 to get the brush off, in the most rapid and wasteful way, by cutting and burning upon the ground. If, now, the clearing can be made to pay a profit in the chips it yields, many will think seriously of planting these wastes with cranberries. The chips are already a fixed institution in some of our cities and villages, and those who have used them will never go back to charcoal. No paper is needed. A match will light the fine twigs, and the larger ones give body enough to the fire to kindle the coal. These chips are now sent by the car load to our city markets, and are likely to affect the kindling-wood men even more than the charcoal burners. If housekeepers can get a bushel of kindlings for ten cents, they will not pay twenty-five for a coarser article of pitch, or yellow pine. Deacon Smith is mightily tickled with his machine, and walks round straight as a ramrod. His horse drives up prompt every Sunday morning to the meeting-house and seems to say "chips." The new harness and carriage are "chips" from the same block. In a little while I expect we shall not see a coal cart in all Hookertown.

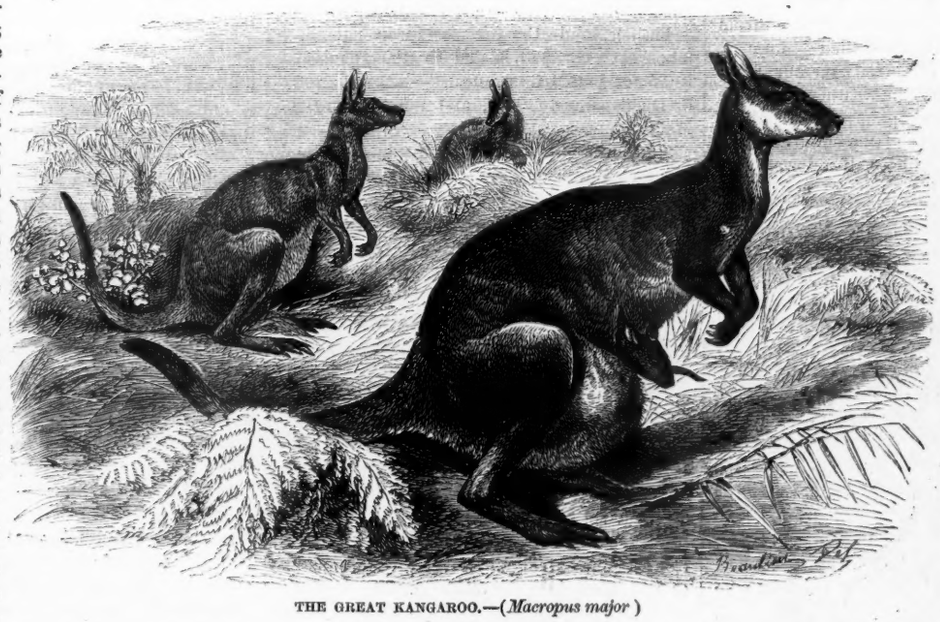
Hookertown, Conn., Aug. 15th, 1869.

Yours to Command,
TIMOTHY BUNKER, Esq.

Imitative Insects.

It is a curious fact that while there are a number of flowers which become conspicuous from their resemblance to insects, there are many insects which strive, so to speak, to render themselves less noticeable by assuming the form of some part of a plant. One of the most striking of these, and one of which several specimens have been sent to us, is the Walking-stick, the commonest species being *Diaphomera femorata*. The long, cylindrical, wingless body of this insect is supported on slender legs, and appears so much like a twig as to easily escape observation. It will be readily recognized among the others in the engraving. Many of our crickets, the katydids and the like, have very leaf-like wings, which are of a green color, and make them very inconspicuous among the foliage. The East-Indian Walking-leaves (*Phyllium*) far outdo any of our insects in their resemblance to leaves; with these the imitation is almost perfect. On the right-hand side of the engraving is shown one of these, but there are others of still more grotesque forms. The Museum of Natural History (Prof. Agassiz's) at Cambridge, Mass., contains some remarkable specimens of these insects. Our "Rear-horse," or Mantis, we bring into this company of odd insects; it is shown in the center of the engraving. The body of this insect appears like the leaf or twig upon which it is placed, while its elongated chest and remarkable fore legs give it a most quaint appearance. These are among the insects worth cultivating, as they are most carnivorous fellows, and feed only on other insects, except food be scarce, and then they eat one another. We undertook to raise a lot, but they ate one another until there was but one left, and we have a suspicion that he ate himself. Our Mantis is found abundantly as far north as Washington and Southern Illinois, and it would be well if it could be acclimated elsewhere. A very curious butterfly, which possesses a remarkable protective resemblance, is found in Sumatra. We do not know its common name, but it is the *Kallima paralekta* of entomologists. The upper surface of the wings of this butterfly is of a rich purple, marked with orange and ash color, making it conspicuous while on the wing, but when it alights it is rarely to be found. It rests with its wings closely folded together, with all other parts but its legs concealed. The under sides of the wings, which in this position are the only parts visible, are of an ash or ashy-brown color, and the insect resembles a dried leaf,——a resemblance which is hightened by the shape of the wings, they having tails which look like a leaf-stalk and markings which represent the midrib and veinings of a leaf. The careful observer will notice many instances among our own insects in the larva or perfect form of what are called protective resemblances.

THE WALKING-STICK, MANTIS, WALKING-LEAF, ETC.



THE GREAT KANGAROO.—(*Macropus major*)

Marsupial Animals.—The Kangaroo.

The Marsupial animals are those which have a pouch under the belly for carrying their young. The teats are within this pouch (or *marsupium*), and the animals, being born in a very rudimentary condition, are conveyed to the pouch, where they attach themselves to the teats and there develop. After the young are able to take other food than that afforded by the mother, the pouch serves them for a place of refuge. There are some thirty odd genera of pouch-bearing animals, and, singularly enough, all, except the one of which our Opossum is the representative, belong to that most singular of all lands, whether we regard its animal or its vegetative products — Australia, and the neighboring islands. The Great Kangaroo (*Macropus major*) is not only the largest of the Marsupials, but the largest animal found in Australia. The engraving gives the general appearance of the animal. It has a remarkable development of the hind legs and tail, while the fore legs appear ridiculously small. The animal when in an upright position rests upon its hind legs and tail, the fore legs being used only when it is feeding. The books state that the tail is an offensive weapon, and an organ of locomotion, and also that the Kangaroo is a harmless and inoffensive creature. An old Kangaroo hunter of our acquaintance tells a different story, and as he has observed them by the hundreds, he doubtless knows. The animal progresses by leaps, and when pursued, takes fifteen or twenty feet at a bound. Our friend says that the tail is not used in making the leap, but to break the fall as the animal strikes the ground. As to their being harmless and inoffensive, he says that an "old man" Kangaroo is a formidable animal, and that not only the dogs used in hunting often get killed, but men have sustained severe injury from them. He says that the tail is not used as a weapon at all. The Kangaroo will clasp a dog or a man by its fore legs with a powerful grip, and then by the use of its hind legs, upon each of which there is a long and remarkably developed sharp toe, scratch and tear its victim. The largest specimens stand at the hight of an ordinary man, and the hunters are careful how they come to close quarters. When taken young they are readily tamed and make interesting pets, but are very difficult to raise. The Kangaroo is an

herbivorous animal and is considered a great nuisance in Australia. Sheep-raising is one of the important industries of that country, and the Kangaroos are troublesome, as they destroy large amounts of pasturage. The flesh of the animal is highly prized, and our informant thinks that there is nothing in the world in the way of a soup to equal that made from a Kangaroo's tail, and that a *fillet* or tenderloin of the animal is better than any other meat.—Since the foregoing was in type we have received from Mr. John Anderson, Allansford, Victoria, some specimens of Kangaroo skins, treated in different ways. One, dressed with the hair on, would, we think, make excellent robes. The friend above referred to says that the skin, tanned in this way, makes a very warm and light overcoat. Another specimen is grained, and of the natural color, very soft, and feels much like kid, while another and stouter piece has been blackened, and seems much like light calfskin. We are told that the chief objection to leather made from Kangaroo skin is, that it stretches to an inconvenient extent.

Walks and Talks on the Farm—No. 69.

When I was a boy my father made me keep the accounts of his farm, and I soon began to take an interest in it. He had ten children, and worked hard to give us a good education. When crops were poor, or prices low, it was with a heavy heart he sat down at night to tell me what to write in the book, and though young, I soon learned to sympathize with him. Like all good men, he lived for his children. He worked hard for us, denied himself many luxuries that we might have a good time, would wear an old hat that we might have new shoes, and often walked that we might ride. Never was a happier set of frolicking young ones on a farm. And there is not one of us to this day that does not love farming. But those who talk of the "independent life" of a farmer, of his freedom from care and anxiety, merely show their ignorance.

There was plenty of anxiety on our farm. There was anxiety about the weather, about the crops, about the stock, and, above all, about the health and life and limbs of the children. We ought all to have been killed half a dozen times over. One was kicked by a horse and ran a narrower chance of life than he has ever done since, and yet he has been through the war, has been up and down the Mississippi on a steamboat, and traveled the whole length of the Erie Railroad. "Aunt Hattie," as we now call her, had her head cut open with a donkey cart, and a sad house we had for many days as she lay between life and death. Another sister when three years old, caught hold of the spokes of the fore wheel of a heavily loaded wagon, and was thrown forward, and the wheel grazed her whole body. My father was driving, heard the scream, and looked round in time to see the danger, but not in time to stop the team. Fortunately the nurse held on to the child and jerked her out of the rut before the hind wheel reached her. Last fall, the eight children who are still living all met together, and it was found that every one of us had some scar that remained to remind us of the accidents of early life.

But what I wanted to say was that the habit of keeping the books for my father was not only a benefit to me, but a great comfort to him. He told me his fears, and I know now that it must have been a great relief to him. It certainly was a great advantage to me. If I know anything about farming, I learned most of it from my father. And I am fully persuaded that if a farmer would provide a nice, substantially bound book, and induce his son to write down every day at his dictation all that was done on the farm, it would go a great ways towards making a good farmer of him. It would be useful. I can imagine some such record as this:

September 1st.—"Very dry weather. Cultivating for wheat." And then the boy would be very likely to ask when he was going to sow, and what kind and why.

Sept. 2.—"Sow had ten little pigs last night, but killed two of them." "It is too bad," says the boy, "to lose them now, pigs are so scarce and high, and they say a rail nine inches high put round the pen, six inches or so from the boards, will prevent a sow from lying on the pigs." "I thought of doing it," says the farmer, "but I could not find the hammer, and we have no spikes." Mental reflection by the boy: "I left the hammer in the wagon." By the father: "Those two pigs at six weeks old would have sold for ten dollars."

Sept. 3.—"Thrashing. The five acres of Diehl wheat on the summer-fallow gave 150 bushels; the 10 acres of Mediterranean after oats gave only 120 bushels." "If we had sown it all to Diehl," says the boy, "we should have had 450 bushels instead of 270." If the father is a sensible man he would correct this remark, and point out the fact that it was not the variety, but the condition and character of the land that made the difference.

Sept. 4.—"One of the horses sick." He had been on the thrashing machine all day, and the driver, to save his own horses, had made the farmer's do pretty much all the work. This horse was on the outside, and his end of the evener was no longer than that of the horse having the inside tract, and he had to draw just as hard as the other and walk much faster.

Sept. 5.—"Drew the wheat to the city. Left at home 10 bushels of Diehl for seed, and 20 bushels of Mediterranean. The Diehl overrun 4 bushels, and the Mediterranean fell short 3 bushels. Got $2 a bushel for the Diehl, and $1.75 for the Mediterranean." The five acres of Diehl came to $280, and the ten acres of Mediterranean, $175.

Now let a farmer tell his son such facts, and let him write them down as they occur, and the chances are that five years will not pass before the farm will be at least partially drained, weeds will have disappeared, thirty bushels of wheat and two tons of hay per acre will be the rule rather than the exception, and there will be little danger of that young man seeking a clerkship in the city.

One of the editors of the *Agriculturist* asks me to tell them more about the new implements and machines I use on the farm, so that they can compare notes. By and by I will do so. It is never safe to recommend a new thing without giving it repeated trials. For instance, the arrangement for fastening scythes to the snaths by means of a screw is far superior to the old iron band and wedges. But if the manufacturer had been here the other morning it would have been a relief to have given him "a piece of my mind." We have about a dozen old snaths on the farm, more or less, but have always considerable trouble in "hanging the scythes," and getting started for an hour or two's work in the morning, while the dew is on; so to make sure of no delay I bought three new snaths and scythes with this ingenious contrivance for fastening on the scythe. We did not use them three times before two of them were broken, and the scythes would not fit any other snath. The whole trouble lies in the fact that the band is made of cast-iron, and when the screw is turned a little too tight, it snaps off like a pipe stem. If the hardware stores kept these cast-iron bands and screws on hand so that we could get two or three with each snath, it would not be so bad; but now when this little bit of casting breaks the whole thing is useless, and we must stop work and send six or eight miles to the store for a new snath.

I tried one new thing this spring that pleases me in every way, and that is Cahoon's Broadcast Seed Sower. I drilled in all my grain, but we sowed the clover and grass seeds with it on the wheat, and I think the seed was distributed more evenly and with less labor than it can be done by hand, and in less than half the time.

Another new thing I have tried this spring and summer, which gives unbounded satisfaction, is one of the Collins' Cast Cast-steel Plows. Of course these things are not new. I am told that there are a hundred thousand of the Collins' plows in use, principally, I suppose, at the West. They are, however, as well adapted to our soils as to the prairies.

I would never get a new thing unless it was a decided improvement over the old ones to which the men have become accustomed. And another point is worthy of mention. When you use more than one machine it is desirable to have them all of one kind. A farmer with one hundred acres of hay to cut, especially if he has much grain to cut also, should have two mowing machines. And he should have them both alike. If both should break the same day it is not probable that the same pieces would break in each, and he could fix up one machine from the two, and keep it running until the broken pieces could be obtained. I foresaw we were going to have haying, hoeing, and harvesting all together this year, and sent for a new Wood's mower and kept both of them going. Bad as the weather was, I never had such an easy time with haying. Most of my neighbors were behind, and they were glad to send men to help me to bind and draw in grain if I would send a machine to cut hay. Blessed be the inventors and manufacturers of mowing machines! say I. I know of no machine so near absolute perfection as a good mower. "You had to mow the hay on this side-hill by hand," I said to Mr. Frank Cornell, as we were walking over the University farm at Ithaca. "Oh, no!" he replied, "I cut it with my Buckeye mower." "It does not seem possible," I said, "that any machine could work on such a hill, sloping in all directions, and about as steep as the pyramids of Egypt." "I had no trouble at all," he replied, "only where it was very steep I jumped off and held the machine so that it should not tumble over!"

I have a horse that, while not absolutely sick, is decidedly "below par." He has incipient indications of spring halt; acts a little as though he was foundered; his hoofs are soft and peel off on scraping them, and look very much as though they were affected by a species of dry rot. I do not think he is broken winded, but he coughs worse than any horse I ever heard. He has a swelling on the windpipe close under the jaw, known as bronchocele. It has just occurred to me that perhaps he has got a stick in his throat, and has had for months.

I got the idea from John Johnston. He says that several years ago a friend of his had a

horse that was sick, and after doctoring him a long time without any improvement, the veterinary surgeon told the owner he had better take him to Mr. Johnston. He did so, and Mr. J. gave him a ball, but the horse could not swallow it, and he put his hand into his mouth to see what was the matter, and found a short piece of stick in his throat, which he pulled out, and the horse soon got well. Since then he has known of five similar cases in his own experience. Once he drove a favorite mare from his farm near Geneva to the State Fair at Auburn, and noticed that she did not seem very well. When he started to come home, three days afterwards, the mare looked very gaunt, and was not as lively as usual. Coming to a watering trough on the side of the road, he drove up to it, and the mare tried to drink, but seemed to swallow with difficulty, and let some of the water run out of her mouth. "That's the matter, is it?" said Mr. J. to himself, and immediately jumped out of the buggy, took off his coat, rolled up the sleeve of his right arm, took hold of the mare's tongue with his left hand and held it firm between her jaws, put his right hand down her throat, and *took out the stick.*

Some time afterwards a farmer asked him to go to his house and look at a horse that was sick. Mr. J. asked him what was the matter. "Does he eat well?" "He seems to want to eat," he replied, "as much as ever, but when he takes his oats into his mouth he lets them fall out again." "Well," said Mr. J., "I am not very well or I would go with you, but do you go home and take hold of the horse's tongue with your left hand, and thrust your right hand down his mouth, and just at the beginning of the throat you will find a stick." The man stared at him as though he thought he was crazy But he went home, did as Mr. J. told him, and, sure enough, there was the stick!

The Deacon says he has cured several horses that had the heaves by getting the tender leaves or buds of Mullein and boiling them in water, and then moistening the cut feed with this Mullein tea. He does not know that it will absolutely cure a broken-winded horse, but at any rate it will greatly relieve him.

Farmers here have had to pay higher wages for harvesting than at any time during the war. And I am not sorry for it! It should teach us a lesson we seem slow to learn. We must put up houses for married men and give them steadier employment. Those of us who cannot afford to build houses can at any rate sell an acre or two of land to some good man who is willing to erect a house for himself, and who will work on the farm. While the nurserymen in the city got more men than they needed, at $1.25 and $1.50 per day, without board, farmers were paying $2.00, $2.50, and $3.00 a day and board, and the men who worked for us thought and acted as though they were conferring a great favor. One man, who rents a house near me, got $4.00 a day and board, and yet I have no doubt that he does not do as well as a man who has steady work at $1.00 a day in winter, and $1.25 or $1.50 in summer, without board. A married man who has worked for me three or four years for $1.25 and $1.50 a day, without board, thought I did not pay enough, and this spring went to Michigan. He wrote back that he was getting $2.00 a day. Shortly afterwards his wife wrote: "All George has got this month is $7.50." Both statements were doubtless true. The whole system argues little for the intelligence of either the men or the farmers. Both alike suffer. But I think the farmers are the most to blame, because they discourage married men from settling in the neighborhood by manifesting an unwillingness to sell a small plot of land, and also from not giving steady work. This very man, I am told, says he would not have left if he could have found any farmer willing to sell him five acres of land. I am well aware that a farmer does not like to sell a square piece of land out of his farm near the road. I would not do it myself. But the plan I propose is to sell a strip of 20 acres to four or five men, and let them open a road in front of the houses. There is no difficulty in finding the men willing to buy. The Germans all want land of their own, and they make capital farm laborers. Let the farmers be accommodating. Plow the land for the men in the spring, and cultivate their corn and potatoes with the understanding that they shall "work it out." The women and children will do nearly all the work on their little places, and the men will be glad to work for the neighboring farmers. In this way we can get men at as cheap rates in the country as the farmers and nurserymen do near the cities. You need not be afraid to let a good German have the land without any payment down. When he once gets a house erected, no matter if it does not cost $50, you may be very sure that the land will never come back to you. If he lives he will pay for the land. If he sells, it will be to buy a larger farm, and in this case the house and land will pass into the hands of some other man who will want to work for you.

The late sown wheat this year, so far as I have seen, seems to have done the best. It did not look nearly so well this spring as that sown earlier. I did not finish sowing until the first of October, and the Deacon told me in May that my wheat was dying. Some fields in the neighborhood, sown in August and the first of September, were looking splendidly, but before harvest my crop caught up. The crops that were put in early, especially where sown thick, were badly laid, and did not turn out well when thrashed, and, besides, it was a slow and expensive job to cut them. If the land is in good condition, I would not sow wheat before the 15th of September, and would not drill in more than two bushels per acre. Where wheat is sown after a spring crop, and is in good mechanical condition, it will pay well in this section to sow 200 lbs. of Peruvian guano per acre on the winter wheat at the time of putting in the crop. I would break all the lumps of the guano, and then sow it broadcast, and harrow or cultivate it in before drilling in the seed. I said it would "pay well." But of course this depends a good deal on the price we get for the wheat. At any rate, if the wheat crop pays at all, we shall lose nothing by using guano. And if we are willing to risk all that it costs us to prepare the land, the seed, interest, and the labor of cutting, binding and thrashing, I think we can afford to risk ten dollars an acre in applying manure.

But if the land needs draining, or has not been properly cultivated, either directly for the wheat or for previous crops, and is consequently not in good condition, it is throwing money away to apply guano. And here is the weak spot in our agriculture. Not one farmer in ten really gets his land into the proper mechanical state for the reception of the seed. We often spend labor enough on it, but do not take time enough. Two or three plowings, during two or three weeks, just previous to sowing, when the weather is very hot, may destroy quack roots or thistles, but it does very little towards developing plant-food in the soil. It is a capital plan to start the seeds of red-root after the wheat is sown, and when we can no longer get at the plants.

When will Top-dressing Pay?

We think always, when we have any fertilizer to spread upon the mowing. Of course we must not rob the plowed fields, but every thrifty farmer can afford to do something for his meadows every year. Material for top-dressing is by no means confined to barn-yard manure. The wash of roads is very good, and this can sometimes be gathered in large quantities in the hollows. The subsoil of clay lands produces very marked effects upon gravelly meadows. Peat, taken from near the surface and weathered one winter, will sometimes double the grass crop. Ashes, the waste of factories, lime, gas-lime, sea-mud, rock-weed, kelp, sea-mosses, and eel-grass, all pay well for top-dressing. On almost all farms near cities it pays well to sell hay, and there is no objection to keeping land in meadow and selling the crop as long as one will keep it up to a production of three tons to the acre by using fertilizers. These farmers are favorably situated for purchasing fertilizers. They can generally get stable manure and night-soil on very favorable terms, and have but a short distance to carry it. With top-dressing, we have no doubt that meadows may be kept indefinitely in grass. Without it, most lands will run out in a few years, and must be plowed to make them profitable. As to the best time for applying manure, there is probably much less choice than most farmers think. Well-rotted compost can be safely put on at any time. Fresh stable manure and coarse barn-yard manure we prefer to apply in the fall. It will tell more upon the grass of next season than if spread the following spring. There is probably some loss of ammonia if green manure is applied in the summer, but we do not hesitate to apply all other manures to grass at any time when it is most convenient to cart them.

How to Keep Pastures in Good Condition.

It is with a pasture as with a man, the income must be greater than the expenses, or it grows poor. Crops are the expenses. It is quite possible to make the surface of any soil unproductive and unprofitable, by carrying off more than is put on. Pasturing with cows that are yarded at night does this. Sheep or beeves that remain upon the land, on the contrary, return more than an equivalent in manure, and keep the land improving. Where plaster meets a want of the soil it may be kept improving by sowing broadcast a bushel and a half to the acre every spring, and feeding off the grass. Many farms in the grazing districts in the interior are kept up mainly by plaster and feeding. Some of them will carry a bullock to the acre. Other lands need lime, and the lime brings in clover, and this plant, by the large drafts it makes upon the subsoil and the atmosphere, always improves the pasture. In other districts ashes are accessible at reasonable rates, and they are always a reliable top-dressing. The effects are visible on some soils in increased crops of grass, for twenty years. Cheap ashes will keep up any pasture, pay their cost, and leave a profit. So will home-made compost, if

a man will but make and use it. Along the sea-board the old pastures need nothing better than creek-mud, and the weeds thrown up on the shore. Too often these are allowed to rot on the sand for want of labor to gather them. Irrigation is available in other cases, and where the waters of a brook can be turned over a pasture nothing more will be needed to keep it in good condition. Changing soils oftentimes has a wonderful influence. Sometimes on the same field of twenty acres there will be sandy or gravelly knolls nearly bare of vegetation, and hard clay or muck in swales. A top-dressing of the sand would pay on the swales, and nothing could be better for the knolls than the muck or clay. Our old pastures to be kept profitable must have something done for them. It will not pay to devote ten acres to a single cow.

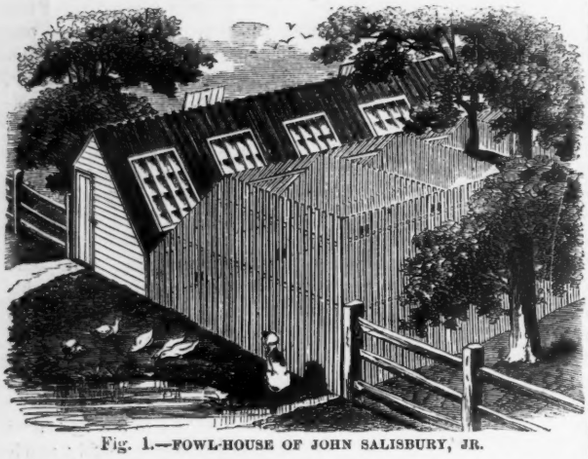


Fig. 1.—FOWL-HOUSE OF JOHN SALISBURY, JR.

Cheap, Convenient Fowl-houses.

We have repeatedly in former numbers given descriptions of fowl-houses, both for keeping a single breed, or for common fowls, and for keeping several breeds distinct. The principle of

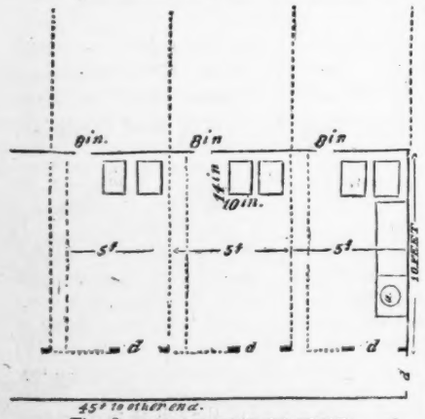


Fig. 2.—GROUND PLAN OF HOUSE.

building poultry-houses as cheap as possible is hardly a correct one to follow, but necessity knows no law with us, as with many of our readers, no doubt, and sometimes we are very glad to combine cheapness with convenience and a moderate degree of excellence. In visiting lately the poultry yards of M.. John Salisbury, Jr., of Nyack, we were struck with the compactness and convenience of a new house he has lately put up for small stocks of fancy fowls, and have had engravings made to show it.

The length of the building is 45 feet, and its width, 10 feet. It is divided into nine apartments, each 5 feet wide. The house is entered at one end, as shown in figure 1, and a passage-way 2 feet wide extends through it on the north side (see figure 2). The interior partitions, including the long one, are of $1\frac{1}{2} \times 1$-inch pine strips; the outside entirely of one-inch hemlock boards battened. The roof is pine flooring, tongued and grooved, and for each apartment a $3\frac{1}{2} \times 6$ feet hot-bed sash is set in the roof. The posts which support the ridge of the roof are 8 feet long, the front wall or side being only $2\frac{1}{2}$ feet to the plate. The yards are much longer than it was possible to show in such a small picture as fig. 1, and 5 or 10 feet wide. The paling surrounding them is also of $1\frac{1}{2} \times 1$-inch strips. A brook runs through the yards, affording an abundance of fresh water, which is a great source of health, and of success in raising fowls. The floor of the house is a dry gravel bed, covered with sand. The roosts are low, as represented in fig. 3. They are made of round sticks, about two inches in diameter, and, beneath them, troughs of two boards nailed together catch all the droppings. The nests and feeding boxes stand upon the sand, and are frequently moved to prevent feed getting under them, or the ground becoming moist, and affording a harbor for insects. Ventilation is secured by openings in the short pitch of the roof. No rafters are needed, as the roof is sufficiently stiffened by the cross-partitions. The doors by which the different apartments are entered are two feet wide, made also of strips, and all are furnished with locks; so that when the owner is absent, the feed boxes (and water vessels, if the fowls are shut out of the yards) may be filled from the passage-way, and no one can interfere with either the fowls or their eggs. A lock on the outer door makes all secure at night. The stock, which had been for several months closely confined, appeared healthy, and continued laying. The slant of the paling forming that part of the yard fence against the house is given to it in order that it shall not cut off the sunlight from the windows. As the house is arranged for nine varieties, where fewer are kept two or more apartments may be thrown together, and thus larger flocks accommodated. We could not have wished for better quarters than this cheap house affords for our old favorites, the Houdans, La Fleche, and other breeds, the original stock, imported last year for our premiums.

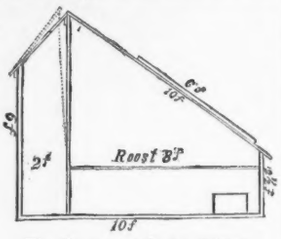
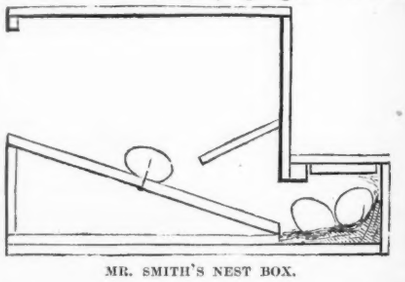


Fig. 3.—SECTION OF HOUSE.

PLOWING WITH A SINGLE LINE.—We have received scores of letters on this subject, which it is of course impossible for us to publish. Here is one, sent from Washington Territory, which has the merit of being short. The writer says: "As Walks and Talks has given me some good hints, I will tell him how to train a horse to go with a single line without losing an hour's time. Supposing he is plowing out corn or potatoes, and drives his horse with two lines. Let him tie a knot in the lines, so that the left line is about three inches shorter than the other; and then, when he wants his horse to go to the left, give a steady pull and he will 'come.' When he wants him to go to the right, a few quick jerks, with the word *gee*, will do it. If it does not, at first, he has the two lines to work with. But always give the steady pull for *haw*, and the light jerk for *gee*, before touching the right line, and I will warrant that after three days teaching he can take off the double line and put on the single one, and can drive him wherever he wants him to go."

A Check to Egg-eating Hens.

Could hens find their own nests, and occupy them unmolested, it would be a rare occurrence to find eggs broken in the nests, or hens that would eat their eggs. Hens are often so closely confined that several use one nest. They quarrel over possession, break eggs occasionally, and in arranging the eggs beneath them, they taste the delicious morsel. Thus a habit is frequently formed, and all broken eggs are at once eaten. Hens learn frequently to break eggs, and to consume every one as soon as it is laid. Even when there is no quarreling, eggs are sometimes broken by clumsy hens, and by the porcelain or glass nest-eggs so commonly used. An egg shell is proverbially a frail vessel, and though glass eggs are very pretty to look at, and by a very stupid pullet might be mistaken for real eggs, yet they are so heavy and so hard that the only wonder is that any eggs survive being rattled about in the nest with them. Nevertheless eggs will sustain heavy pressure evenly applied, and quite hard blows from moderately soft substances, as for instance from wood, or from other eggs even, for there is a considerable amount of yielding elasticity in the surface of an egg. From whatever cause it occurs, eggs are apt to be broken and eaten. We noticed in use at Mr. Salisbury's, a contrivance of Mr. Cornelius Smith's, for the immediate removal of the egg as soon as laid. A section is shown in the accompanying figure. It is a



MR. SMITH'S NEST BOX.

common nest box with a bottom slanting gently from front and rear towards the center. The board forming the slope from the front passing quite through to the rear of the box, while that sloping from the rear stops short of the middle far enough to allow an egg to roll under it down the other slanting board. At the back of the nest-box, outside is a receptacle for the eggs, lined with hay, and closed with a tight-fitting cover. We tried the experiment to see if eggs would roll down and break if they struck the back of the receptacle, or if they hit other eggs, and they did not, even when started quite fast. A nest-egg is made fast to the slanting bottom of the nest; and for this purpose the turned wooden nest-eggs they bring nowadays are excellent, for they may be screwed on from below, as shown. We were rather surprised to find that no imitation of a nest was required, the hens laying upon the bare boards, so far as

one could judge, with perfect contentment. It would certainly look much better if a roll of hay were tacked against the sides all around.

Plowing with Three Horses Abreast.

One reason why there is so much difficulty about the more extensive employment of three horses abreast in plowing is, that very few farmers know how simple a matter it is to get up a set of whiffle-trees for the purpose. The only addition to the ordinary outfit of a farm is the evener. This is provided with three com-

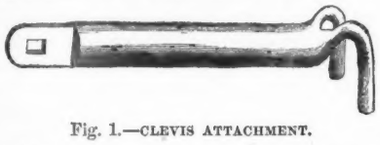


Fig. 1.—CLEVIS ATTACHMENT.

mon iron clevises, and a short piece of chain. It has a common "double-tree" at one end, and a "single-tree" at the other, attached to the piece of chain. The big clevis is placed exactly one-third of the way between the "double-tree" and "single-tree." This is all there is to a three-horse whiffletree. It is an important thing to arrange the plow clevis so as to throw the draft far enough to the land side of the team to enable one horse to walk easily in the furrow and two on the unplowed ground. If the pull is *direct*, the horse that walks in the furrow will crowd the middle one, and make the team unsteady.

Very good plow clevises for this purpose are manufactured for sale, but with a light ox chain, and a single piece of stout iron work, an equally good one may be got up at home. The iron should be about six inches long from the center of the hooks to the shoulder on the straight end. Its form is shown in fig. 1. The hooks should be placed in the upper and lower eyes of the clevis, so as to hold the iron firmly in a horizontal position, with the other end projecting toward the land side. The chain

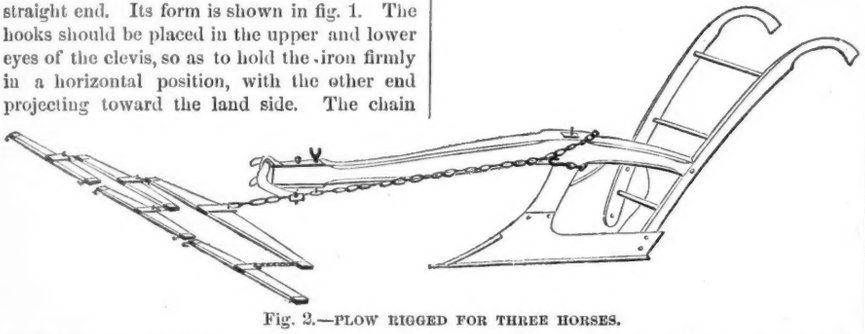


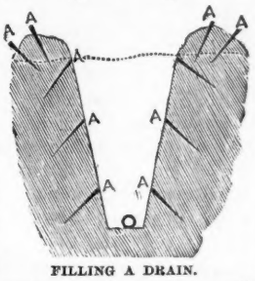
Fig. 2.—PLOW RIGGED FOR THREE HORSES.

should be fastened around the beam back of the standard of the mould-board, so as to lie along the land side of the beam, and the flat end of the iron should be passed through one of its links and secured by an iron key or a hard wood wedge, driven through the hole. The whiffle-tree evener should then be fastened to the chain as close to the plow as possible. The complete gear is shown in fig. 2.

Filling Tile Drains.

A Western correspondent sends suggestions about covering tiles and filling drains. He objects to throwing down earth from the bank, as it would displace the tiles, and suggests the scraping off of enough of the subsoil from the side of the ditch near their level, which will fall gently upon them, and will be compacted by the operator as he walks forward in his work.

Where one man is working alone, this is a good plan, but if the tile layer can have an assistant, walking toward him in the ditch to lay gently on each collar, *as it is laid* (and while the tile is held in its position by the hand), a shovelful of fine clay, the work will be better done. The plan (of which the following illustration is forwarded us) for filling the ditches, while it would need some modification in a hard, gravelly subsoil

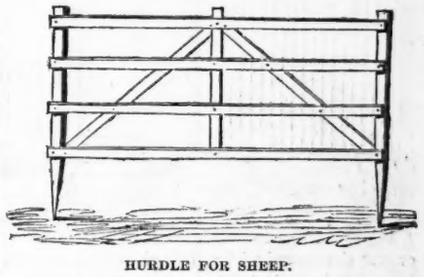


FILLING A DRAIN.

that can only be worked with a pick, is well worth a trial in the more yielding soils. It is to cut down the sides of the ditch, step by step, as in covering the tiles, until it is nearly full. "Then getting out of the ditch I thrust in the spade as in digging, about fourteen inches from the edge of the bank, and *pry* in the dirt. This leaves very little to be shoveled in by the old spine-twisting, back-aching method, and is a decided improvement, both as to labor and time." In the sketch sent by our correspondent, the surface level is shown by the dotted line; above this is the earth thrown out; and *A A A* the thrusts of the spade, by which the earth is pryed in to fill the ditch, beginning at the bottom.

Hurdling Sheep on Green Crops.

We were at Mr. Wing's farm of "Maple Shade," Dutchess Co., about the middle of July, when he was just turning his Cotswolds upon the rape, then making a fine show. Rape, which is a cabbage-like plant, making an abundance of foliage, but no head, is sown as early as the ground can be worked in the spring, and a succession of crops, put in a week apart, is provided. It is sown in rows about two feet apart and cultivated like turnips, but not thinned so severely. If it makes a good growth, it is fit to be fed off about the middle of July, and Mr. W. finds it the best green fodder he can give his sheep. Soon after the ewes are separated from the lambs, when dry enough, the flock is hurdled upon the rape. One of the hurdles used is represented in the accompanying illustration. It is 8 feet long; the posts, $4\frac{1}{2}$ feet long, of 2×3-inch pine; the slats, 1×2-inch pine, are let into the posts; and the panel is braced by one upright and two converging braces of 1×2-inch stuff. The slats are nailed to the posts and to the braces at each lap by one stout wrought nail clinched. When set up in plowed ground, a crowbar is used, which is represented in a Basket item. It is about $3\frac{1}{2}$ feet long, and has an enlargement about a foot from the point, which gives additional weight to the bar, making it a convenient maul, and being cup-shaped upon one face, has no tendency to split the posts when they are driven into the ground. In setting a panel, two holes are made, which receive the pointed posts part way; they are then driven down, and a ring of wire slipped over adjoining posts. Thus a very firm fence is easily made, handled, and shifted. Both ewes and lambs are fed upon the rape, the flocks being turned into the hurdles towards evening, and taken out and put into pastures where they can lie in the shade during the day. The hurdles are shifted daily, the sheep having access to only so much as they can eat clean. When the rape is rank, they refuse the coarse stalks, which, in a younger state, they eat clean. After one or two days' feeding there is no difficulty in driving them, for as soon as they are let into the field they will break for the hurdles, neg-



HURDLE FOR SHEEP.

lecting the most tempting bits by the way. These sheep are fed in this manner until fall turnips are ready, when they are hurdled upon them in the same manner. The flat strap-leaf turnip is usually employed, and the sheep eat them very clean, it being necessary to throw out with a potato hook the larger ones which are gnawed down to the surface of the ground. On these the sheep are kept until winter. Practice like this will enable small farmers to support quite a flock of these large, quiet, mutton-making sheep. The ground is admirably and evenly manured, and the whole system is exactly adapted to the most rigid requirements of "high farming."

Exhibition Coops for Poultry.

Who has not been distressed by the forlorn coops or cages which generally contain fowls and other poultry at exhibitions? The difficulty of hitting upon just the right style, for convenience, cleanliness, ease of packing for shipment, ease of cleaning out, safety of the fowls and of their eggs, has led us to discuss the subject somewhat, and try to induce our friends to contribute their good ideas. We have come to the conclusion that those people who are thinking about it have made up their minds to get their ideas patented. We propose therefore the plan here described, as far better than anything we have yet seen, and shall be glad to present any superior one (not patented) to our readers.

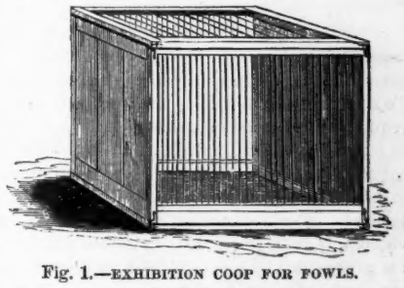


Fig. 1.—EXHIBITION COOP FOR FOWLS.

The coop or cage, fig. 1, is made of six external pieces, and a drawer. The front, top, and back, are frames made of three-quarter-inch pine, halved, and screwed together with two small screws in each corner. Unannealed iron,

No. 6 wires, go across these frames the shortest way, and are placed about an inch and a quarter apart. The bottom is of light, clean pine stuff, five-eighths of an inch thick, tongued and grooved, and having four-inch cleats let in flush, to prevent warping. The sides are made in the same way, or may be paneled. The drawer is an inch deep, inside measure, and a space is left in the front or in both the front and the back, to put it in and pull it out. These pieces are put together by pins and hooks, and if well made the cage will be a strong one. The drawer should be kept filled with dry sand

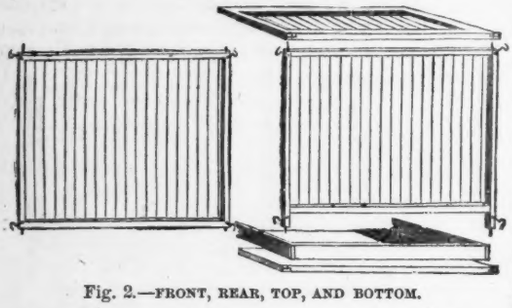


Fig. 2.—FRONT, REAR, TOP, AND BOTTOM.

or gravel, covered with a little short, clean straw. In case it is undesirable to have the top open, the top and bottom, as shown in the engraving, may be reversed, and each one used in place of the other. The fowls may be put in by lifting the top, or by lifting the top, shoving it back an inch, and then raising some of the wires in the front. Should the fowls be exposed to drafts, the cage may be covered with canvas or baize on one or more of the open sides. Packed for transportation these cages would occupy only 6 inches in thickness. The dimensions of the cage may vary considerably; the size represented in the illustrations is 2 feet high, 2 feet deep, and 2½ feet long.

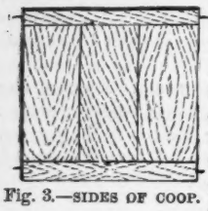


Fig. 3.—SIDES OF COOP.

A low roost, 5 inches high, to relieve the fowls from constantly standing upon a flat bottom, may be made of a half round piece of wood, two inches in diameter, (one inch radius) having two triangular blocks with 5-inch bases for feet. When not in use, if simply turned over against the back of the coop, the roost will be entirely out of the way.

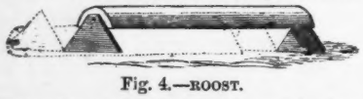


Fig. 4.—ROOST.

Impure Drinking-water.

It is said that a man's palate is like a policeman, stationed at the door of his stomach to prevent the entrance of improper company. To a certain extent this is true, but our safety requires that the aid of the reason be called in to exercise a wiser discrimination than our tasting faculty can do. Many articles, more or less injurious, are either of agreeable taste, or are tasteless. For instance, it is not unlikely that cholera, typhoid fever, and epidemic diarrhœa, are propagated by means of fresh and sweet-tasting drinking-water, more than in any other way. It is not positively proven, but it is undoubtedly true, that the presence in the water of wells and springs of matter emanating from the excrement of persons sick with the above diseases, and perhaps some others, is a sure means of disseminating them. It is also generally believed among those who have paid the most attention to the subject, that any excrementitious matter in drinking water is not only highly injurious, but is often a cause of the outbreak of diseases. There is good reason to suppose that these diseases are also communicated by a contamination of the atmosphere (especially of sleeping-rooms), but the weight of authority seems to attach even greater importance to pure drinking-water than to pure air. As an instance in point, we refer to the fact that in the summer of 1854 a sudden and most violent outbreak of cholera (reaching a mortality of 131 in a single day, within a circle of about 200 yards radius), which occurred in London, was distinctly traced to a well in the center of the fatal area, that received the leakage of a house-drain through which the evacuations of a cholera patient passed immediately before the outbreak of the pestilence. The water of this well (as is often the case with water containing organic impurities) was peculiarly fresh and palatable. On the removal of the handle of the pump by order of the vestry of the parish, the disease rapidly diminished. It seems perfectly clear, in this instance, that the cholera poison contained in the evacuations of a single invalid was distributed by means of this well throughout the whole district, dealing death on every hand.

It is stated that, a few years since, the overflowing of the filth-vat of the Atlantic House, at Newport, R. I.,—sending a poisoned stream through the gravel stratum that connects the wells of a large part of the town—gave rise to what was known as the John Street Fever, which proved of the most fatal character.

Sufficient evidence has also shown that the leachings of barn-yards are, as a cause of typhoid fever infection, hardly less dangerous than are the exudations of privy vaults.

Now is the season when we should guard with the utmost care against every possible contamination of our wells and springs. During the winter, spring, and early summer, the amount of water in the soil is sufficient to keep any slight impurity so far diluted as to be comparatively unimportant, but during this and the succeeding months, when the springs are low, when most of the water-bearing strata of the soil have run dry, the virus is so concentrated as to tell, with often fatal effect, on all who use the water. This season of low wells is peculiarly the season of typhoid fever, epidemic dysentery, etc., and it stands every sensible man in hand to provide *at once* for the purification of the source from which the drinking-water of his family is taken. A single cup of clear water, fresh from the spring, may carry the seeds of a fatal disease, and typhoid or dysentery may come, like a thief in the night, and carry away the pride of the house:—then there will be lamentations over the inscrutable decrees of Providence.

If no well or spring is at hand which is surely free from contamination,—which has no streak of gravel connecting it with a privy-vault, a cess-pool, or a barn-yard,—then, by all means, commence by providing a good supply of *rain* water, and end by so arranging the establishment that no atom of the waste of the house or barn shall find its way into the lower soil.

PLOWING UNDER CROPS FOR MANURE.—An old farmer in Missouri writes us that he has "tried buckwheat, oats, corn, and clover, plowed under as manure," and has come to the conclusion that nothing is so good as clover. He has not tried peas, and asks whether they are good for this purpose. Next to clover there is no crop better than peas to plow under for manure. But peas contain a good quantity of matter that can be turned into pork, and the manure that is left will be nearly as valuable as the peas themselves. Grow all the peas you can, but do not plow them under. There is no better feed for pigs, and sheep do well on them.

How to Save Corn Fodder.

Much of the value of corn stover is destroyed by careless handling, even in the districts where they store it for feed. This is especially true of the corn that is cut up by the ground, and put in shocks to cure. The curing process goes on safely while it remains in the shock, but the husking begins while the stalks are yet green at the bottom, and the fodder is immediately stacked or carried to the barn, and stored in bulk. It soon heats and moulds. If, after husking, the stalks are bound immediately in bundles, of convenient size for handling, and put into large shocks of thirty or forty bundles, set up endwise, and capped with straw, they will cure without moulding, and make excellent fodder. Or the bundles may be taken directly to the barn, or to an open shed, and stored in the same way. The air has free circulation through the interstices of the bundles, and the moisture is carried off. Well-cured corn fodder is nearly equal in value to hay, and the extra labor of making into bundles will pay.

Draining Large Swamps.

Those of our readers whose farms run on to large swamps, which can be drained only by the concurrent action of all their proprietors, will be interested to know what is being done on a similar swamp near New York. The swamp is a long and narrow one, and winding through it in the most tortuous course is a brook of considerable size, which, owing to its many curves, to the obstruction of trees that have fallen into it, and to a profuse growth of water-cresses, is always so sluggish that at ordinary stages of the water it runs bank-full; and after heavy rains, the whole swamp is overflowed and is kept constantly in such a condition as to be worthless even for pasture. The plan for its improvement consists chiefly in a project for straightening and deepening the course of the brook. It is estimated that by striking a bee-line from the lower to the upper end of the swamp, the length of the stream will be reduced more than one-half; and it is in contemplation to make the excavation to a depth of four feet below the level of the banks, at which depth, almost throughout the whole course, the bottom of the brook will be, not in muck, but in the hard subsoil. In order to prevent the washing away of the banks, the bottom of the brook will be but three feet wide, the width at the surface being fourteen feet. This will give a very gradual slope, to be sodded immediately, and on which grass will grow down to the ordinary level of the water.

At the upper end of the cutting a pond of considerable size is to be made, with a sluice-way through the bottom of its dam communicating directly with the head of the brook. Ordinarily, this pond will be full, and its overflow will pass through a curved wooden "shute" by a very easy descent to the level of the bottom of the new ditch; so that there will

be no danger of the cutting away of either the bottom or the sides by the force of the water. The silt and *detritus* washed during autumn and spring freshets from the mountain regions above, will be largely deposited in the pond, and during the dryest seasons of the year the gate in the sluice-way will be opened, drawing the water from the pond, and allowing the deposit to be removed. This removal will restore the capacity of the pond to the original point, and will yield a valuable fertilizer.

As the work is to be undertaken by the joint action of the riparian owners, the articles of association require that no open ditch shall be cut through the banks for the draining of the adjoining lands; but all side drains, whether they be open or covered, will be taken into the brook through covered passages, curving towards the outlet of the ditch or down stream and delivering on a level with its bottom, so that instead of cutting away the sides or leaving rough edges against which the stream in the ditch itself could take effect, they will add to the velocity of the stream while they add to its volume, and will obviate the most serious objection to such improvements as ordinarily made.

The Supply of Water to Farm Buildings.

Those farmers who live among the springy hill-sides of New England have, within their easy reach, the means for bringing water (through hollow logs, or otherwise) to their barn-yards or stables, in such quantities as to enable them to supply their animals at all seasons without undue exposure, to wash implements without trouble, and to easily do whatever else requires a liberal supply of pure water. While many farmers would hesitate to spend $100 in bringing water to their barns, no farmer who has once done it would take five times that amount as compensation for giving it up. Unfortunately, a very large portion of the country is deprived of this natural source of water flowing by its own "head," and in such cases it is necessary to raise water by artificial means from wells or from springs on lower ground. Under these circumstances, recourse must be had to water-rams, water-wheels, caloric engines, or wind-mills. Of these, the most satisfactory, where there is a constant supply of water, flowing in sufficient quantity to allow nine-tenths of it to be wasted, is to be found in the use of the water-ram,—a simple and economical contrivance, which, with almost no cost for repairs, and without supervision, keeps up its steady work in winter and in summer, often for many years. The water-wheel is very effective, and is considerably used in the eastern part of Pennsylvania, where springs frequently break out near the borders of a brook. The water of the brook is used to turn an overshot wheel, having about twelve inches breast, and three-foot arms, or a diameter of six feet. This wheel works a little force-pump, the constant action of which sends an abundant supply of water, often to remote hill-tops. Where the supply can be drawn only from a well, although the caloric engine is favorably spoken of by those who know its operation, there is nothing so useful as a good, self-regulating wind-mill. One of these has been working on our own farm for more than a year; and, although subjected, without attention, to the severest gales, has never required the least repair, nor any attention whatever, beyond a slight oiling once a week. In selecting a wind-mill, it is best to take one having, in ordinary winds, rather more power than is required. We thus secure the action of the pump during those slight breezes, which often are the only interruption to long-continued calms, during which, with a smaller wind-mill, we might be for weeks without the necessary supply; and nothing is more provoking than an intermittent supply of water after one has once learned to depend upon it. To go back to the old well-sweep and tub, after several months' relief from such labor, more than makes up for the small saving in buying the lower priced wind-mill.

A Warning to Young Book Farmers.

We took occasion, in a recent number, to say that certain works of the imagination, depicting the delightful independence and the solid prosperity of certain new beginners in farming and gardening pursuits, were not, in our opinion, good books. Since our former notice was written, we have read again, with much care, the "Farming by Inches" to which we then alluded; and we are so strongly impressed by it, that we should be doing less than our duty did we not again advise our younger readers not to be led astray by its apparent genuineness.

It is not impossible that everything stated in this book might actually transpire, but it is so far from being probable, that we risk nothing in saying that it is, in the main, untrue. A man and his wife, with no previous knowledge of farming, go into the country in the spring, take possession of an inherited place of only three acres, buy some books and plenty of manure, hire very little assistance, and, by dint of natural shrewdness and hard reading (mainly of a seedsman's advertising catalogue), make money enough to pay all their living expenses, all the cost of carrying on their business, and a good interest on their investment. On its face,—and probably in the intention of its author,—the story is a simple pastoral tale of the most unobjectionable tendency. If it were true, in all its particulars, it would be valuable, for the reason that what one man has done, another may fairly hope to do. If it were a very probable story, it would be valuable as an encouragement to beginners in farming.

It is neither true nor probable. Humanly speaking, it is not possible. Therefore, it is altogether bad, and, if read at all, it should be read with the understanding that the moral it attempts to point does not exist. It is a story of almost uninterrupted successes. A true record of the first year's experience of any tyro in agriculture would be, in almost every instance, a story of disappointment, failure, hard work, and sunken money. As in every other career, the school of experience is a dear and a hard school to learn in; and he who takes one acre or a hundred for his practising ground—if he has not learned his trade in advance—will, before his first year is over, need all his heroism to carry him through with a stout heart.

We believe that there is hardly a limit to the possibilities of farming and gardening. One who understands his business, who has sufficient capital for his operations, a good soil, a good situation, and plenty of manure at command, may hope for a very large reward for his labor and superintendence. We rejoice, therefore, when we see any man or woman turning from other pursuits with the intention of making agriculture or horticulture a career. Only when we see them go headforemost into the thing,—undertaking a difficult trade without learning it, and seeking to get in a month the knowledge that a year cannot give,—do we shudder at the thought of the bitter things in store for them.

As a rule,—a rule that has few exceptions,—they will lose much more than a year's living expenses, and will learn much less than they could learn as working hands in the employ of a good farmer. If you, reader, want to become a farmer, or a florist, or a market gardener, take our advice:—Buy as many of the best books on the subject as you can find time to read, and hire out, as an irregular hand, with the best man you can find who is doing, practically, what you have made up your mind to do. Work for dear life, read, listen, and watch all that is going on; at the end of your year you will be able to start judiciously and well. You will have saved money, you will have saved time, and you will have gained information that five years of ignorant and expensive blundering could not have given you. There is no royal road to good farming,—except the road through royal hard thinking, and working, and waiting.

An Experiment with Weathered Peat.

The statement that our peats are, many of them, worth as much as good stable manure, is received with a good deal of incredulity. The chemist analyzes and shows his one, two, or three per cent of ammonia, but the old-school farmer shakes his head and does not take stock. He has tried the sour stuff and did not see any thing start. Dennis Tuttle, of Madison, Conn., on the other hand, has tried it and started something. During the peat excitement he had been drawn into the purchase of a bog for the manufacture of fuel. When coal went down from fourteen to seven dollars a ton, the conditions of success in that enterprise were somewhat changed. The peat bog looked like an elephant. But Mr. Tuttle happened to have bought with the swamp several acres of poor, gravelly soil around the margin. A small lot, so poor that it hardly yielded half a ton of hay to the acre, was taken for the experiment. The peat was gathered from near the surface of the bog in the year 1867, and was applied to the field at the rate of about twenty-five loads to the acre, in the spring of 1868. It had the advantage of the frosts of one winter, and was worked over so as to make it fine. The field yielded a large crop of good hay last summer, judged to be three tons to the acre. In a recent visit to this field it had a luxuriant growth of grass, certainly not less than two tons to the acre, and the good influence of the peat could be seen in the striking contrast between the body of the field and patches in the fence corners where the dressing had not reached. Mr. Tuttle was agreeably surprised at the result, and his neighbors who laughed at the elephant have a longing for the bank that has such deposits and makes such dividends. Allowing the peat to cost twenty-five dollars to the acre, spread upon the field, and the gain in the crop for the two years to be only four tons, worth $75, he has made a good thing of it. The peat will last another year certainly, and when the sod is turned over for corn, there will be a heavy burden of grass roots to feed it. We could not expect any better results than this from the same amount of the best stable manure. It is not probable that every bog will yield such peat as this, but few have been fairly tested that do not pay abundantly for working. Why should they so generally be given up to toads and water snakes?

CONNECTICUT.

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AMONG THE SALT MEADOWS.—DRAWN BY GRANVILLE PERKINS.—*Engraved for the American Agriculturist.*

Among the Salt Meadows.

The sea and the land are in constant warfare. In some places the sea encroaches upon the land, while at the mouths of our large rivers the land generally gains upon the sea. These rivers bring down large quantities of earthy matter, organic and inorganic, which is deposited in what geologists call alluvial deposits. Within a short distance of New York we have abundant instances of this fact. Thousands upon thousands of acres, as the rivers approach the sea, are made up of this deposit. These salt-water meadows are more level than a Western prairie, and were it not that the salt water allows the growth of only certain plants, they would be most valuable for cultivation, for they are rich in organic matter. These meadows are penetrated by creeks which generally have a most tortuous course, and as the surface of the land is but very little above that of the water, one finds that what appears to be a broad and unbroken meadow is impassable on account of the numerous water courses. One of our artists has been down on the coast of New Jersey, and has sketched one of these inlets, in which he and the engraver have succeeded in giving us a sunrise effect, rarely produced in a wood engraving. The rude boat, with its patched sails, is loaded with "punk," which is much employed as a fertilizer by the farmers in that neighborhood. This we understand to be a kind of submerged peat, which is, in some localities, collected in large quantities. The specimens which were forwarded have failed to reach us. Those who live near the sea are able to avail themselves of some of the vast treasures that are cast into it. The waste of a large city is something fearful to contemplate. Every day there is thrown out and borne seaward that which the land is starving for. The waters for hundreds of miles inland bear in their turbid streams the richest fertilizing materials. The farmers near the sea get it back in the form of sea-weed, salt muck, punk, fish, etc. Those who live farther inland buy it in the form of the different guanos. How to stop this great waste is one of the problems of the day. In England, the best agricultural chemists and the most skilled engineers are at work at it. Let us take a lesson from the Chinese and Japanese, who, in this particular, are far in advance of us, and stop this impoverishing waste. They utilize everything which can fertilize.

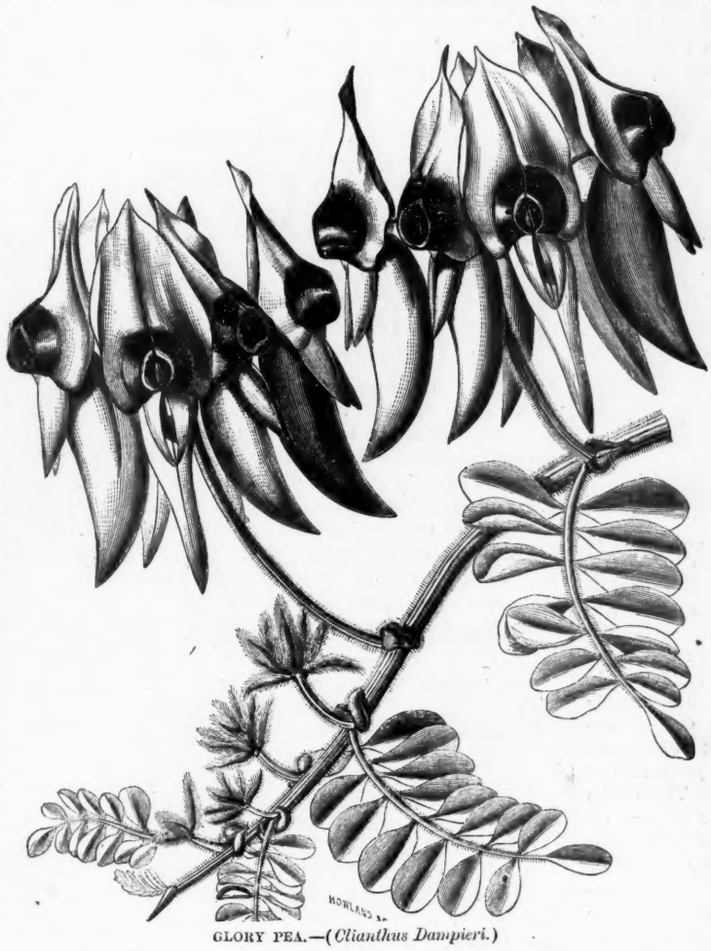
Pasturing Meadows.

It is a bad thing for all meadows to feed them after mowing, except that rare class where the vegetation is too rank to make good hay. If a field cuts four tons of hay to the acre, feeding a few days might not harm it. But for ordinary mowing land cutting only half as much, grazing cannot fail to reduce the next year's crop, and to shorten the period during which the land can be kept in grass. We noticed this summer in an old meadow the great difference in the yield of hay inside of an old stock-yard, and upon the adjoining land. The circle where the fence had stood was very distinctly marked by the ranker growth of grass. Outside, there had been grazing all through the fall. Inside, the fence had protected the grass. Though the outside had the droppings of the cattle, yet the yield upon the inside was at least a third more, and there was no other noticeable cause than the difference in grazing. It is true that by pursuing this plan there is more old fog upon ungrazed land, but that is just what the roots of grasses need for their winter protection. The ground does not freeze so deep, and the grass starts earlier in the spring and makes a larger crop of hay.

Australian Glory Pea.—*Clianthus Dampieri.*

[Recently we have derived great pleasure in seeing the Glory Pea successfully cultivated by one of our horticultural friends. The plant is such a striking one, both in color and habit, that we procured from him materials for making an engraving, and the following account of his method of treating the plant. — EDS.]

In compliance with your request I propose directing the attention of your readers to one of the grandest ornaments of the flower garden—the "Glory Pea." I flowered this plant for the first time in 1856, and the variety known as *albiflora* in 1867. I at present (Aug. 1st) have one plant in my garden with eleven trusses of its gorgeous flowers in the greatest perfection. To prove that the Glory Pea is all that the most enthusiastic lover of Flora's gems can ask, I need but cite the fact, that our friend the Editor has visited my plant at least once a week for the last month. As evidence that it attracts others, less versed in floriculture, our friend noticed a bare strip upon the lawn, which led from the adjoining path to the plant, and he sarcastically remarked that "the path leading to the Glory Pea was more trodden than that leading to church." The Clianthus continues flowering for two or three months. The color is a rich, brilliant crimson, with a polished black boss on the upper petal of the flower, each margin of the cleft in the black boss being tipped with a narrow band of pearly white. The variety *albiflora* is white throughout the centre spaces of the flower, belted with brilliant rosy crimson, and marked with the black boss—presenting an unique and exquisite combination of tints. There is no reason why the Clianthus should not be found frequently in our gardens. The plants should be grown and sold by our nurserymen as cheaply as verbenas and petunias. It has been stated by a leading seedsman that the seed will succeed if sown in the open ground; but this we are inclined to doubt until we have established the matter by experiment. Our experience teaches, that to insure vegetation the seeds require a bottom heat of from 80° to 90°. An ordinary hotbed is all that is required. The plant now blooming in my garden is one of several raised from seed sown on the 1st of April.



GLORY PEA.—(*Clianthus Dampieri.*)

Many have been the failures in cultivating this beautiful plant, owing to the fact that it will not bear transplanting from seed pots or the seed bed. The roots are very brittle, and if injured in any way rapidly decay. The only successful mode of culture is to sow the seeds singly in two or three-inch pots in light compost. As soon as the roots are found coiled round the ball of earth they must be shifted into 5 or 6-inch pots, in which they may be grown until about the second week in May, when they can be planted out in the open ground. The Clianthus is a plant which a gardener would call "miffy"—that is, difficult to keep in health in its early stages of growth. If supplied with too much water, or if the atmosphere in which it is grown is too moist, it will damp off; and if allowed to become pot-bound in small pots disease will attack the roots. Another year we shall try the experiment of sowing seeds in the open ground, and will report the result. As regards soil it is easily suited; but it will grow and bloom all the more freely for a liberal allowance of thoroughly decomposed manure. I trust that your numerous readers will cultivate this gorgeous plant; and if their efforts should prove as successful as mine have been, it will gratify AL FRESCO.

CLUSTERED LEUCOTHOË.—(*Leucothoë racemosa.*)

The Clustered Leucothoë.

It seems strange that a shrub which in May and June presents so fine an appearance as the Clustered Leucothoë, should be so little known. We do not recollect to have ever seen it in cultivation, except, perhaps, in Central Park, where it was left among other desirable native shrubs. The shrub grows from four to six feet high, and in its foliage and general appearance much resembles a huckleberry bush. The flowers are arranged in very close, one-sided racemes, and all point downward with such regularity that they have been compared to rows of teeth. They have a pearly whiteness. The fruit is a small, dry pod. The engraving gives the summit of a branch somewhat reduced in size. The botanical name of the shrub is *Leucothoë racemosa.* Those who studied plants many years ago will recognize this as what was then called Andromeda racemosa. The old genus, Andromeda, for sufficient botanical reasons, having been separated into several genera, this plant has, with several others, been placed in *Leucothoë*, which, being a proper name from mythology, cannot be translated. If the shrub has a common name in any locality, we should be glad to learn it. The plant grows from New England to Virginia, and may be easily cultivated.

INDIAN PIPE.—(*See next page.*)

The Indian Pipe.—(*Monotropa uniflora.*)

Among our northern plants we know of none more grotesque, or more likely to arrest the attention of the indifferent observer, than the Indian Pipe we have figured. A while ago we were walking through our woods with a city friend, who noticed curious white spots upon the ground. He asked what these were, and was told if he would come in two weeks he should see. He came, and the engraving shows what these white spots came to. A pure waxy white stem, so singularly white that it has been called the "Corpse Plant," lifts itself up, bearing along its length dead white leaves, and at its summit a single flower. This flower is bent downwards, while it is a flower, but in fruit it is erect. During the flowering season, a clump of this plant presents a most striking appearance. There are usually several in a group, all of a pure, ghostly white, 3 to 8 inches high, and often with the tops of the stems turning the same way. The plant is found in dark and rich woods, and from its place of growth, as well as its singular appearance, is usually taken for a fungus. The slightest examination will show that it is not a fungus, but a flowering plant, as it has ten stamens and a very large pistil. The botanical generic name, *Monotropa*, is from the Greek, meaning "one turn," as the summit of the stem is turned to one side. The specific name, *uniflora*, was given on account of its having but one flower. While the plant is of such a pure white, when plucked it soon turns to a jet black. Dried as botanical specimens are usually dried, it is thoroughly black. One of our friends is making an experiment with various solutions, to see if he cannot preserve this plant in its colorless condition. Those who mistake the plant for a fungus are not so very much at fault, as it has all the habits of a fungus. It grows on decomposing vegetable matter, and may have an attachment to living plants. The engraving given upon the preceding page was taken from an undersized specimen, which grew in a rather dry place.

Garden Edgings.

We have referred to the matter of garden edgings more than once, but recent correspondence requires that we should notice it again. We think it a matter upon which too much stress is laid. The old style of gardening required that every border and bed should be edged with box or some similar plant. Where beds are cut in the lawn, edgings can very well

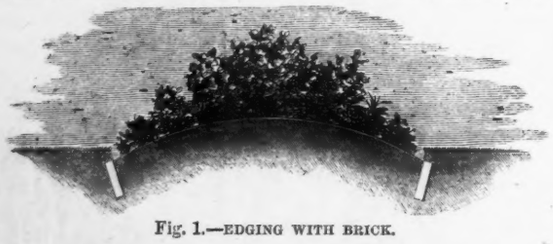


Fig. 1.—EDGING WITH BRICK.

be dispensed with, the grass itself being a sufficient setting for the plants. Considerable care is required and frequent use of the edging knife, to prevent the grass from running into the bed, but in well-kept grounds this is easily done. Where the lawn borders upon a walk, or where a flower border is to be separated from a walk, one of the most permanent and available edgings is one of brick, set half or more into the ground, and close together. Moderate curves, as well as straight lines, may be made in this way. If the red color is objected to they may be washed over with water cement, which can have its color modified by umber or other desired color. Box is the best living edging, but it implies care, and at the best, requires resetting every few years. When raised beds are made in lawns, their outline may be maintained by an edging of bricks set as shown in figure 1. Board edgings are intolerable, as they warp and decay to an annoying degree. A correspondent suggests an edging of iron—

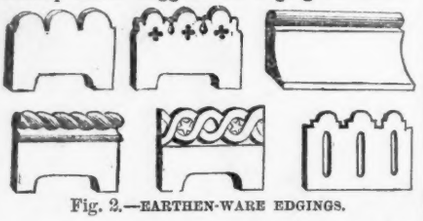


Fig. 2.—EARTHEN-WARE EDGINGS.

boiler-plate we suppose—with iron stakes which are to be thrust into the ground riveted to it. This would be too difficult to procure, too expensive, and when set, would rust, if not protected by coal tar, which would make them of an unsightly black. We hope that some of our potteries will furnish such edging tiles as are in use in England, and as a hint we give in figure 2, some of the styles approved abroad.

Notes from "The Pines."—No. 4.

Bean lovers will stick a pin here and remember it next season. The Dwarf Wax Bean is a good thing—not so good as the Giant Wax (pole), but it is after that style,—and then so early! Planted a few days later than the Early Valentine, it was a week ahead of it. It is not a "string" bean, because it has no strings, but it has a great deal of "snap" about it. The pods look whitish and sickly, but just try them! They do not boil down into flabbiness, but keep their proper rotundity. For bean salad they are splendid. Perhaps the reader does not know bean salad. Beans, oil, and vinegar. If oil is objected to, as it is by some, try butter and vinegar, but don't forget the beans. The Household Department will please excuse any trespassing, but I am an enthusiast on salads.

Is it not strange to note how few people use their eyes? I had a handful of chestnut blossoms, from which Mr. Beaulieu made the beautiful drawing on another page, and a gentleman at the station, as we were waiting for the cars, asked me what flowers I had. He probably did not suppose that one of the *Agriculturist* staff would have any common thing. Yet this man was born and "raised" within a mile of the tree from which the blossoms came. When a child I read a story by Miss Edgeworth (I think), called "Eyes and No Eyes." You could not do better than to publish that, or something like it, in your Boys' and Girls' Department.

A distinguished Senator once wrote to a distinguished Cabinet officer a letter which read as follows: "Stick." It was not very long, but very emphatic. I not being a Senator and never expecting to be, humbly say "stick," for this is the time at which all Chrysanthemum growers should stick. The autumnal gales will come, and then where will you be? If there was ever a plant constructed for the particular purpose of being broken, it is the Chrysanthemum. If it were human, I should say that it had the "break bone fever," but as it isn't, I say "stick."

Our Walks and Talks editor says that some of us think that he has fall fallowing on the brain. If his fall fallowing does as much good as our summer fallowing he may be insane in that direction as much as he likes. Taking an old place that was overstocked with weeds our first business was to subdue the land. A large patch was summer fallowed, and as soon as the weeds showed themselves the cultivator was put through. Kind neighbors advised that the piece should be put in this or that crŏp, but we kept on cultivating it for weeds. A week or two ago it was sown to ruta-bagas of various kinds, and if there is a patch in the whole county that shows a better stand and is more free from weeds, we should like to see it. Having once got the start of the weeds it is a comparatively easy matter to keep the supremacy.

Several have asked me for my potato experience. I have none to give until the potatoes have completed their career and the vines have died. It would not be fair, for some potatoes have a wonderful way of catching up on what we may call the "home stretch." For instance, we had potato A as large as pullets' eggs, while potato B was only as large as good-sized peas. A week after potato B was nearly equal in size to potato A. An opinion given at this time would have been manifestly unfair. So with the Tomatoes. We have 21 different sorts, all growing in open field culture. Those which set the earliest do not fill the soonest, and any verdict as to productiveness, until all are ripe, would be premature.

I must, however, say a word for the Black Pekin Egg Plant. It has such an upright growth and such a marked foliage that it is worth growing as an ornamental plant,—and it was introduced as such. But for its fruit it is remarkable; we have them almost large enough for the table while the regular New York Improved is just thinking about fruiting.

It is a good thing to be able to give one a new sensation, provided it be a pleasant one. A friend was here who had never eaten beet greens. Now, after spinach, if there is anything better than a juvenile beet,—a beet just beginning to be-it, thinned out that its brothers might grow, and then exalted to the table with a plenty of butter and just a dash of vinegar—I want to see it.

People talk about the squash-bug and the striped bug, but neither is as bad as is a brother to the striped bug, the *Galeruca decem punctata*, which means the 10-spotted Galeruca. It looks as innocent as a lady-bug, has the same shape, but is yellow, with 10 black spots. If this fellow gets on the vines it leaves its mark. They look as if they had been scorched. The striped bug, another *Galeruca*, is troublesome when the vines are young, but this 10-spotted fellow comes at any time. It is of no use to chase him after sunrise, for he is livelier than his pursuer. In the early morning when he is chilled he may be caught, but let him alone and two or three will during the day spoil the most vigorous leaf. Fortunately we planted some for the bugs, but then it is discouraging to see the havoc this rascal will make.

Then the borer. Entomologists tell us to cut

him out of the squash and melon vines; but unfortunately the vine is killed before the borer is discovered. Your vines are all right in the morning, but at night every leaf is drooping, all on account of this rascally borer. We should like to see any surgery that will restore vines so afflicted. They have thus far taken only one vine in a hill, but suppose they should take all, where would we be?

Sprouts.

In early spring, sprouts are in great demand in the New York market. They come in after the winter spinach has gone, and at the restaurants we find sprouts substituted in those dish-

SPROUTS OR GERMAN GREENS.

es in which spinach was used earlier. "Corned Beef and Sprouts" takes the place of "Corned Beef and Spinach" on the bills of fare. Sprouts are Kale or Borecole, and are in reality a form of cabbage that does not head, but forms a great abundance of wrinkled leaves, which, when they have been frosted, are really delicious eating, whether taken in early winter or left until spring. The seed is sown in September in rows a foot apart, and cultivated the same as turnips. On light soils the plants pass the winter without any protection, but on heavy ones it is better to give a covering of bog or salt hay, or some similar material. An old gardener, a neighbor of ours, says that "the curliest is the best," and saves his most curly plants for seed. The common market sort, of which we give an engraving, is known as German Greens. There are several new varieties which we are testing, and may, at another time, report upon them.

The Pickle Crop.

There is scarcely anything upon which we have so many inquiries as cucumbers for pickles. Many persons have heard that pickles are a profitable crop, and having planted them, write to us to ask how to dispose of them. Let us look at the matter. Supposing one had planted a crop of flax or cotton, would he expect us to tell him how to convert these fibres into cloth? The raising of cucumbers is one thing, and the manufacture of pickles is another, and as distinct a branch of business as that of the cotton raiser and cotton spinner. Those who have made money by raising cucumbers for pickles are those who live near pickle factories, and could contract for the sale of their crops upon delivery. We do not think it will pay for those who are not thus situated to go largely into the business of raising cucumbers. There are many obstacles to overcome in "getting a stand," and when the vines are in fruit a man can hardly earn his wages in picking cucumbers. A highly intelligent friend in Michigan, who keeps an account with every crop, has given up the cultivation of cucumbers on account of the expense of picking. He had many acres in cucumbers, and until he kept an account he thought them profitable, but although he was doing a large business in shipping them to Southern markets, he has given them up. Near city markets and pickle factories, where they can be sold at once by the hundred, cucumbers may be raised at a fair profit, but when one has merely to salt them to preserve them, it is doubtful if it will pay. As to the growers converting them into pickles, it is not probable that it will meet with any success, as that is a branch of business by itself. In putting up cucumbers in salt and water for shipping, the friend above referred to operated as follows. He used new barrels. One head being taken out, about four quarts of salt were put in the barrel, which was then filled with cucumbers; four quarts more of salt were placed upon the cucumbers, and the head carefully replaced. The barrel was then filled with water through the bung-hole, and tightly bunged up. The barrels then had their position changed every day or two for a week or more, to insure that the salt was thoroughly dissolved, when they were ready for shipping. He says that cucumbers put up in this way and kept tight will keep in good condition for six months or more.

The Blackberries.

It is strange that the growth of a blackberry is not generally understood. We have given the whole story many times, and yet here are a half score of letters asking about the blackberry. Now let one of these writers go to his blackberry patch, and he will see two, three, or more used-up looking canes loaded with fruit, and as many more vigorously growing green canes which have started up this year. Pick all the fruit that ripens, and when the last berry is off, cut out the old canes. The next year's crop depends upon the growth of the new green canes. Top all of these new canes that are over five or six feet high. By "top" we mean cut them off. It should have been done long ago, but better now than not at all. Had it been done earlier it could have been accomplished by the thumb and finger, but now the shears must be used. The canes now will have side branches, and these should not be allowed to extend themselves longer than about eighteen inches. Three or four canes to a stool are enough, and these should be kept tied up to a stout stake. We prefer to use tarred twine for these rough fellows. Suckers will come up between the rows and everywhere. It generally is the case that these can be sold as soon as vegetation ceases, for a fair price; if not, cut them down before they get too woody to be cut with a sharp hoe. As to varieties we still place the Kittatinny at the head of the list. For market the New Rochelle will be found profitable where it is not winter-killed, but for blackberries "as are blackberries," we think the Kittatinny about as good as those we used to pick from the wild bushes on "Old Point Judith"—which is saying a great deal. A blackberry patch is something uncomfortable to handle. Our friend Wm. N. Doty, who is always inventing something, has brought us an ingeniously contrived pruning chisel which we think will prove a great help. We only wait for our fruit to be off to allow us to try it.

Winter Spinach.

One of the profitable crops of the market garden is Spinach. In the latitude of New York it is sown about the middle of this month in drills about a foot apart, and kept well cultivated until frost sets in. In places north of here it will be necessary to give it some protection. In early spring it is ready to cut, and brings a good price, and it is off of the ground soon enough to make way for other crops.

The Rat-tailed Radish. (*Raphanus caudatus.*)

It is about time that this humbug was exploded. Some ten years ago our friend, Isaac Buchanan, brought from Europe as a very precious thing, the seeds of the Madras Radish, the pods of which were to be good for eating or for pickling. With many thanks to our veteran florist we grew the plant, but could not see that the pods were either eatable or pickleable. Later, the *Raphanus caudatus* came out, and ten seeds were sold (we think) for 25 cents,—it may have been more. This year we grew it, giving it the best possible treatment. It gave a generous supply of pods, something longer, perhaps, than our old Madras radish. The English papers had lauded the pods of this radish as something excellent when cooked and treated with drawn butter, in the same way as asparagus. We had a guest from the city, and wished to treat him to a novelty, so the rat-tails were picked and nicely served. We never ate boiled rat-tails, but have no doubt they would be preferable to the pods of this rat-tail radish, albeit some of them reached the prescribed length of eighteen inches. Neither did we ever eat boiled shoestrings served with drawn butter, but in trying the *Raphanus caudatus* we think we got a good idea of them. It was noticed that no one asked to be helped the second time.

NUTRITIVE VALUE OF DIFFERENT CROPS.—Mr. J. D. McGuire, of Maryland, referring to the article on this subject in the *Agriculturist* for May, writes: "The following statement, which I took from the balance sheet of the Agricultural Academy of Hohenheim, for Nov. 1863, whilst I was a student there, will give you in part their estimate of how many pounds of each article are equal to 100 lbs. of hay. Fifteen head of horses, 122 head of horned cattle, and 890 sheep were kept there and fed on this principle: 100 lbs. of hay are equal to 275 lbs. of beets, carrots, or Jerusalem artichoke; 200 lbs. oat straw, or potatoes; 125 lbs. Brewers' grains; 60 lbs. oats; 50 lbs. groats or oil-cake."

THE SURPRISE APPLE.—This is a small, rather flattened apple, having a yellow skin with a red blush. It gets its name from the fact that one in cutting it open finds the flesh, much to his surprise, of a red color. The quality of the fruit is poor, and it is grown only as a curiosity.

The Chestnut as an Ornamental Tree.

If the chestnuts ever bloomed more copiously than they did this summer, we failed to notice them. For many days it was a pleasure to see their masses of flowers and glossy foliage, and we wondered why the chestnut was so seldom used as an ornamental tree. It has every desirable quality to recommend it; it is perfectly hardy, makes a rapid growth, and has great dignity of habit. It forms a dense shade, and its glossy foliage, but little liable to the attacks of insects, produces admirable effects in contrast with trees of a lighter color. It is most beautiful when in flower, its abundant, long racemes appearing in great numbers at the end of every twig, and the effect of the whole is one of airiness and grace. The blossoms are of a yellowish-white, or cream color, and are produced in such masses as to make the tree a conspicuous object. Then it blooms the latest of all our forest trees. As we write, in the middle of July, our woods are gay with them. Many persons wonder how such a long and slender blossom can produce chestnuts. But few people carefully examine the flowers of forest trees. The flowers which make the show are not the ones which produce the fruit. The chestnut is a *Monœcious* tree, i. e., produces flowers which are all staminate (male), and others which are all pistillate (female), on the same tree. The staminate and sterile flowers are those which make the most show. The individual flowers are small, with many stamens, and are irregularly clustered together on a long and slender stem, forming what the botanists call a *catkin*. The pistillate or fertile flowers appear at the base of the upper catkins of the sterile ones. There are usually three of these inclosed in a leafy envelope or involucre, which afterwards becomes the prickly chestnut bur. The engraving, though reduced in size, shows the two kinds of flowers distinctly, as well as the general appearance of a flowering stem. The catkins of staminate flowers are sometimes worked into summer bouquets, to which they impart a graceful appearance. The Chestnut is easily raised from the seed, provided it is not allowed to become dry. The nuts, after a day's exposure to the sun, should be packed in sand until planted. Autumn planting, with a covering of forest leaves, would be best. Nursery trees are readily transplanted, but trees from the woods, if taken after they are two or three years old, seldom live, unless they are first prepared by root-pruning. Our tree is considered as a form of the European *Castanea vesca*, which is known with us as the Marron and Italian chestnut. Our native trees present great differences in the size of the nuts, and doubtless one by experiment with the best native seedlings could make a great improvement in the fruit. In speaking of the chestnut as an ornamental tree, we do not forget its great value for timber.

FLOWERS OF THE AMERICAN CHESTNUT TREE.

SETTING TREES.—"T. C.," Lockport, N. Y., asks about setting trees. He evidently thinks that the year of the setting has to do with the year of bearing. He wishes to have fruit every year, and thinks that by planting a part of his orchard one year and a part the next, he will be able to get a half crop each year. The time of setting the tree has nothing to do with the time of its bearing. Some varieties are so precocious that they will even bear in the nursery rows, while others are ten years in coming into bearing. Orchards fruit every other year for the reason that in their "bearing year" they carry too much, the trees become exhausted, and it takes a whole year for them to recuperate. In our rough way of doing things we have not yet reached the point of cultivating our orchards. It is cheaper for us to let the trees overbear one year and rest the next, than it is to thin the fruit and thus secure a moderate crop every year. Those who have dwarf apple trees thin their fruit and have a crop each year. Labor is not cheap enough to allow the thinning of fruit in the orchard, and it is better as things now are to have one year of plenty and another of scarcity, but the time of setting the trees in the orchard has nothing to do with it.

Preparing for Spring Planting.

Very few people know that the cabbages and cauliflowers which appear in June and July, as well as the lettuce, which comes much earlier, are all from seed sown in September. South of Pennsylvania, the young plants may be wintered in the open ground. In the latitude of New York we are obliged to use cold frames, in which the plants are placed to protect them against sudden changes. Seeds for plants for the earliest crop next spring are to be sown from the 10th to the 20th of the present month, in the open ground. The plants thus raised are to be kept in a dormant state through the winter in cold frames. The manner of constructing cold frames and the treatment of the plants we shall give in a timely article. Let the seed be sown in a well-prepared bed, and keep the plants free from weeds, and properly thinned, so that they will not be drawn up and weak when transferred to the beds. If one is near a town it will pay to put in more plants than he needs for his own use, as in spring he will find a ready sale for the surplus.

Drying-houses for Fruit.

Several have inquired about houses for drying fruit. The most primitive arrangement we ever saw for drying fruit by heat was in Missouri. A fireplace was dug in a bank and covered with flagstones; the fire was made below, and the fruit was placed on the stones. A roof was built over the oven, to protect the fruit from rain and dew. The most elaborate and extensive arrangement we have seen was that of a large desiccating establishment, which prepared dried vegetables for the army during the war. Here were immense chambers with pipes heated by steam running along the floor, above which were racks holding trays with canvas bottoms, containing the vegetables to be dried. Where there is any considerable amount of drying to be done, it is desirable to use artificial heat, as then one is independent of the weather, the drying goes on more rapidly, and insects can be kept away. There are several patented houses which no doubt answer a good purpose. We do not know what the patents cover, but we do not think that the principle of applying the heat below the thing to be dried can be patented, else every house heated by a hot air furnace is an infringement. We gave in June, 1866, an illustration of a drying-house which shows the general principle, and will no doubt answer a good purpose. The object is to get a constant supply of hot air to pass over and among the fruit or other article to be dried, and to provide ventilators for the air to pass off as soon as it is charged with moisture. "W. H. K.," Northampton Co., Pa., says: "I intend to build a house 10 × 8 feet, and 9 feet high, with shelves all around from top to bottom, and heat the same with a stove. What do you think of it?"——We think that W. H. K. will find trays which can be placed upon racks much more convenient than shelves, and that he will find it advantageous to put his stove in a pit, and carry the pipe around the building as low down as possible. Provide for admission of cold air *below* the pipe by openings which can be regulated and an adjustable ventilator at the roof. Those who have hot-bed frames and sashes will find them of use in drying fruit, etc., and a very convenient substitute for a drying-house.

THE HOUSEHOLD.

(☞ *For other Household Items, see "Basket" pages.*)

The Table—Order and Ornament.

It is curious to see how much correspondence our remark about the use of the fork has called out. Some write us to thank us for our advocacy of the fork, and others to ask us how it is possible to eat mashed potatoes and the like, with the fork. We have tried to define our position in this matter. What we call "society," or "good society," has decided that the food should be conveyed to the mouth with the fork, and not by the knife. We cannot argue about this, and our friends will excuse us from discussing the point. It is as much established as that one should not put his own knife into the butter, or his fingers into the salt-cellar. Certain usages become established, and the best way is to conform to them. Now about the fork. If one has the old-fashioned two-tined fork, fig. 1, it is almost impossible to use it in conveying food to the mouth. Steel forks are now made with three tines, as in fig. 2, and are very comfortable to use, but the fork used in all well-to-do families is of the shape shown in figure 3. This may be of silver or plated ware. Our publishers offer as premiums some excellent plated forks. The writer uses these forks and with great satisfaction. Another question comes up—"Should green corn be cut from the cob or is it proper to *gnaw* it from the cob?" We say gnaw by all means, if you wish to enjoy the green corn. All rules of table usage should be subservient to common sense, and no one, to our notion, ever fully enjoyed green corn who did not gnaw it from the cob. Then again we are asked as to "passing things." It is the business of every one at a private table where there is not a regular waiter, be he guest or otherwise, to see that his neighbors are helped to the things before him. An unobtrusive look at the plates will indicate the right time to ask if one will have this or that. Now a word to the lady of the family. If you ask a guest to take this or that, and he declines, let that settle it, but do not say "*do.*" People, as they average, are very moderately sensible, and when they politely say "no," that should be the end of the matter. It is the other side of hospitable for the host or hostess to insist that one shall take that which he does not want.

Fig. 1.—TWO-TINED FORK.

Fig. 2.—THREE-TINED FORK.

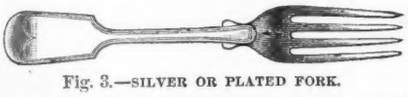


Fig. 3.—SILVER OR PLATED FORK.

Citron and Citron Melon.

A correspondent in Texas wishes to know how he can convert the citron watermelon into such citron as comes in boxes. He cannot do it, as the two are very different things. The citron imported in boxes is the rind of a large, thick-skinned lemon-like fruit, preserved in sugar and dried, and has a positive flavor of its own. The citron melon is a thick-fleshed watermelon, the fleshy part of which, tasteless in itself, is only a medium to absorb sugar and flavors, and cannot be by any means converted into a substitute for the true imported citron. The citron melons, so-called, when well grown, are used for preserves, without regard to their ripeness. The thick, fleshy portion between the rind and the seeds is cut into convenient sized pieces—frequently into stars, and other fancy shapes—and then preserved in syrup, to which ginger or other desirable flavoring material has been added. A more decided green color is obtained by first soaking the pieces in a weak alum water. The citron melon is, just as watermelon rind, simply a sponge to soak up syrup, and this syrup may be flavored with whatever may be desired. The transparency and attractive appearance of the sweetmeat make it a favorite with many, but we had rather have one quince, properly "done up," than all the citron melons that were ever grown. Since the above was in type, Aunt Hattie has sent her method of preserving the citron melon.

The Care of Lamps.

A good lamp with good kerosene gives a light so fine and steady that those who live in the country need not regret the absence of gas. It is true that the care of lamps takes a little time, while gas is always ready and to be had by turning the stop-cock. By a little system and a few simple contrivances the labor of taking care of lamps is reduced to a trifle. In trimming the wick, do not use scissors, but simply scrape off the charred crust with a knife. A little practice will enable one to leave a perfectly smooth edge to the wick. The metallic tube which encloses the wick, whether it be flat or circular, should be kept free from all incrustation. Even the best oil will encrust it somewhat, and this, if allowed to accumulate, will injure the quality of the flame. The chimneys must be kept clean. Any deposit of dust or smoke upon them causes a loss of light. A straight chimney, such as is used upon lamps with circular wick, is easily cleaned by means of a soft cloth wound around a stick.

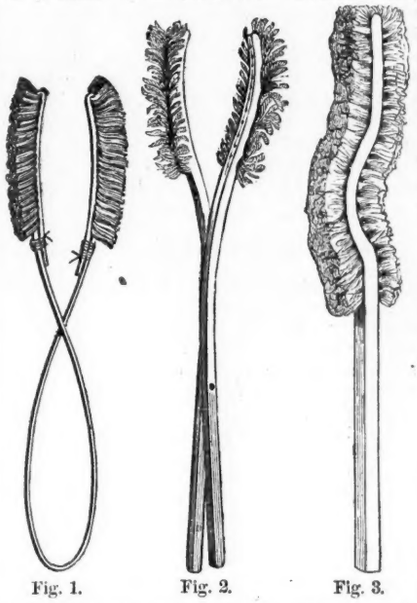


Fig. 1. Fig. 2. Fig. 3.

It facilitates the operation to breathe into the chimney. When the chimney is not straight, but has a swelling or bulge, a curved stick is necessary. Figure 3 shows a curved stick to which lamp wick or coarse worsted threads are attached. Figure 2 shows a double cleaner, the two parts of which are joined by a rivet. By compressing the handles, the brushes are spread far enough apart to reach the wider portions of the chimney. Figure 1 shows a similar contrivance, in which the brushes are attached to an elastic wire handle. Even with the best of care chimneys will require to be occasionally washed with hot and strong soapsuds.

Feather Dusters.

Small feather dusters are most convenient to have in the household, and are much preferable for most purposes to the turkey wing which is so frequently used. Great quantities of these dusters, both large and small, are made and sold. The larger ones are made of various kinds of imported feathers, while for the small ones the feathers of the barn-yard fowls will answer a good purpose. When fowls are killed, preserve the longer feathers with care, especially the tail feathers of the male

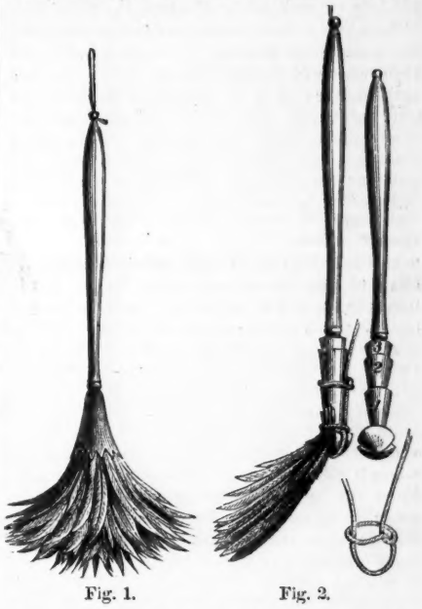


Fig. 1. Fig. 2.

birds. The peculiar form of the duster, figure 1, is given to it by the shape of the lower part of the handle to which the feathers are attached. The shape of this handle is shown at the right hand in fig. 2. There are at the bottom three cones terminated by a knob, which last has a groove to hold the string. One handy with the jackknife can readily whittle out such a stick, and by the aid of sand-paper make the handle part smooth enough to be painted. In attaching the feathers the shortest ones are put on first. A knot is made in the binding string like that shown in the lower part of fig. 2, and the manner of putting it on is shown in the same figure; a row of short feathers is put on, and then the string is carried to the notch above, a row of longer feathers put on, and then again, when the longest and handsomest feathers are used. When all are securely bound and tied, a conical cap is put over, to conceal the fastenings and give a finish to the work. This cap may be of thin leather, or of some brightly colored fabric. We have seen red flannel used with good effect. The whole is made to look more workmanlike by clipping off the ends of any feathers that protrude too much.

Household Talks.

BY AUNT HATTIE.

A lady from Michigan wants Aunt Hattie to give the best method of packing butter for market and home use, also a recipe for apple jelly, and one for citron melon preserve. The butter question goes on the table for the present,—not but what it is an important one, but partly because its importance demands more attention than the Talks allow, and partly for the reason that I design to write a separate article treating on the cheese and butter subject.

CITRON MELON PRESERVE.—Cut the melon in slices an inch wide, pare, and take off the pulp so as to leave the surface smooth and even; leave it in lengths or cut into squares according to fancy. Weigh the melon, and to each pound allow one pound of good white sugar, and one large or two small lemons. Put the citron into a porcelain kettle, cover with clear water, and boil gently until a straw will penetrate the fruit readily. Cut the lemons in slices and take out the seeds, and after the melon is removed from the water, put the lemons in and let them boil a few minutes. Remove, and add the sugar, and if you judge that there will not be sufficient juice to cover the whole when done, add a little more water. Boil until clear, skimming if necessary, add the melon and lemon, boil a few moments all together, and afterwards

put into pots, jars, or bottles. This preserve will keep perfectly in jars if cooled, and then covered with pasted paper the same as jelly, or it may be put into a crock, the lid of which is well secured.

CRAB-APPLE JELLY.—Remove the specks, stems, and seeds, from Siberian crab-apples, and throw them into a pail of water. Put them into a porcelain kettle, cover with water, put on the fire, and stew until very tender, being careful not to let them burn or adhere at all to the bottom of the kettle; strain through a clean crash towel or cloth, pressing and wringing and straining, until the juice is extracted, and nothing but a small mass of dry pulp remains, which may be thrown away. Strain the juice through another cloth, or, what is better, a good flannel jelly bag; strain again, if it is wanted extra clear and fine. Return the juice to the kettle, measuring as you do so with a pint measure, and allow for each pint a pound of granulated white sugar. Place on the fire and let it boil briskly for twenty-five minutes. Now remove the kettle a little back, if the fire is large, and stir in the sugar gradually. If all has been done properly, the jelly will form while you are stirring it, but it may be necessary to allow the kettle to remain on the fire, where it will boil very gently, or rather simmer, for about ten minutes. The judgment must be the guide in this matter. *Obs.*—You may boil the juice as fast as you like, before the sugar is added, being careful not to let it burn, but after the sugar is added, I think it better to boil gently. Some persons put half as many green grapes to the apples before stewing. It is well to let the sugar stand in an open oven while the juice is being boiled, but you must be careful not to let it brown in the least, and it should be stirred occasionally. Of course a solid jelly will not be formed in the kettle; it must be turned into little cups or jars, and allowed to stand until next day, when it will probably be firm and clear. White paper, cut of the size and shape of the surface of the jelly, should be dipped in brandy and placed upon it; afterwards some white paper should be pasted over the mouth of the cup, and when dry, mark upon it the kind of jelly and the date of making. Store in a dry but cool closet or store-room. I never keep jelly in the cellar.

PEACHES—TO PRESERVE.—It is, I believe, acknowledged by every one that the old-fashioned way of doing up peaches, pound for pound, is not the best. Even those who prefer to do up their strawberries, plums, and raspberries in this way, admit that the delicious natural flavor of the peach can be retained only by bottling or canning.

BOTTLES.—If old bottles are to be used, examine them carefully, reject any that are in the least cracked, see that the lids are perfect. It is well to have these things attended to beforehand, as you may have fruit brought in that will require to be preserved from decay immediately, or it may be necessary to purchase new lids, or you may find that you will not have bottles enough for the quantity of fruit at your service. I should advise persons with large peach orchards, and large families, to purchase the two-quart bottles, as they cost only a trifle more than the quart. It is not always necessary to purchase new lids for old bottles, as an experienced person can hermetically seal the mouth with a piece of strong cloth tied securely around the outside, and well covered with rosin and tallow, made in proportion of an ounce of tallow to half a pound of rosin. Be careful in this case that the entire opening and rim of the mouth of the bottle is covered with the wax and watch it to see that no blisters rise.

TO SKIN PEACHES.—To two quarts of wood ashes add four quarts of soft water, place in an iron pot, ashes and all, let it come to a boil, throw in a dozen peaches, take them out almost immediately and throw into a pail of cold water. The skin will slip off without any trouble, when the round ball should be passed to another pail of clear spring water to remain until wanted for the kettle; put more peaches into the pot, and proceed in the same manner until all are done.

PEACHES—TO BOTTLE.—Put into the porcelain or clean brass kettle two quarts of water, and a pound of sugar. Let it boil until the sugar is quite dissolved; put in fourteen, twenty-eight, or three times fourteen halves, if the peaches are small, and quarts are used. If the peaches are not stoned, ten, twenty, or thirty, should be put in, according (you will perceive my idea) to the number of bottles desired to fill at one instant. One quart will hold fourteen halves or ten whole peaches. Let them come to a perfect boil, and continue to boil for not more than two or three minutes. If the fruit is very ripe, more boiling will have a tendency to crack the peaches and make the juice muddy, whereas it is desirable to have the fruit unbroken, and the juice as clear as water. Fill the bottles as quickly as possible, taking a fork to put in the peaches, and filling up with boiling juice, using a very hot teacup for this purpose; seal immediately. All the juice from the kettle will probably not have been used, and more water and sugar should be added, and more fruit, until the process is completed. It is quite a help to have a kettle of water boiling on the back of the stove. Persons who have had no experience in bottling fruit should be reminded that intense heat coming suddenly upon the cool glass will crack the bottle, so that it is necessary to prepare the bottle by filling or nearly filling with quite warm water before using.

PEACH PIE.—Line a pie dish with a good paste, pare, stone, and quarter some nice, ripe peaches, and slice them on to the paste, adding a little sugar, cover with an upper paste, and bake until the bottom and upper crust are done perfectly.

PEACH PIE ANOTHER WAY.—Take a deep pie or pudding dish, skin a quantity of peaches, but do not take out the stones, and fill the dish, adding a little water and sugar. Cover with a good wholesome pastry, rather thick, and bake in a moderate oven, leaving the door open awhile, if the upper crust seems to have baked before the fruit is done. No under crust. To be eaten cold. Is delicious with sweet cream.

PLUM PIE.—Green gage or the blue plums make an excellent pie if treated the same way as the peach.

Moral Courage in a Housekeeper.

The following is extracted from a very sensible letter of a lady who adopts the signature of "Prudentia." "All food should be of excellent quality, but not too complicated, or too many varieties at a single meal. We should conscientiously avoid habituating children to concentrated or highly seasoned dishes, as it creates an artificial appetite, which, in its turn, craves stimulating drink. I think we should have the moral courage to set before our guests healthful food, that our example and influence may be felt in the right direction. There are so many choice fruits, canned, and otherwise preserved, that a satisfactory and at the same time unobjectionable meal may be prepared at any season of the year. There are a few choice friends in this vicinity who make it a point, when they visit each other, not to overdo culinary matters, that the woman of the house may enjoy a social time with the rest. Most of us do our own work, and must give our time to preparing meals."

Soap Making.

Soap making is an important household operation. We have already published some communications upon the subject, and now give place to one from Mrs. M. C. Ross, Warsaw, Ill., which has the merit of being direct and practical. She writes: "In the first place, if your wood is poor, your ashes will be poor and you will not have good soap. Take good care of your ashes, and one week before the lye is required, put them in the leach, *pounding them down solid.* It is easier done if they are dampened. Then pour on water until they begin to drip, after which let them stand one week to "rot," then hang on your kettles and commense running off lye for operations. By letting the ashes stand to "rot," as it is called, the lye is stronger, and the soap of a better quality, and not so apt to be "livery." If the lye is too strong, I weaken it; if too weak, I boil it. The proper strength can be told by putting a fresh egg into it. It should throw the big end of the egg up above the surface to show about the size of a silver dime (if any one nowadays can find one to make the comparison). If the lye is a trifle weaker, the egg sinks. With lye of this strength, take a pound of clear grease, or its equivalent in common "soap grease," to each gallon of lye used, and set to boiling. After the grease is "eaten up," if the mixture will "eat" or take the plume off of a feather, put in more grease. If a white scum rises on top, skim it off, or put in more lye. This scum is grease, and should never be left until it is cold. Boil until it looks ropy as it runs off the stirrer. If not boiled too thick, all sediment will settle while it is cooling, and I prefer not to have the lye poured in as Mrs. Gage directs in an article in the May number. A former writer gives her trouble with grease that was too salt. I think if she had rightly known, her lye was too strong. I never have trouble with salty grease except that it makes the soap hard. A lady once put up her ashes with mine for making soap. It was so strong as to bear an egg entirely above the lye. I weakened mine and had no difficulty. She tried an experiment, and boiled all day; still, as she expressed it, "it would n't come worth a cent." An old lady seeing it, told her to pour water into it. She added nearly as much water as there was compound in the kettle. Instantly the soap came."

Ella's Ivy.—Ella came to visit her aunt, and as she was so much interested in plants we gave her a small cutting of Ivy in a pot. Never was there a plant that had such attention as that Ivy, during her visit. It was carried from one window to another, to get a more favorable aspect, as she thought. Every hour, almost, she asked if it did not need water. Ella went to visit her grandmother, leaving her Ivy in our charge, with particular injunctions to take care of it. A week after her aunt visited the grandmother, and Ella's first question was about her Ivy. The Ivy was taken good care of, and now Ella has the sole charge of it. It is pleasing to see the love of little children for some plant that they can call their own; they pet it as if it were a doll. There is no better plant for children than the Ivy. It will bear all the misuse they will give it, and repay all the care it gets by growing luxuriantly. The plant is a long-lived one, and that which is a pleasure to the child may become a delight in maturer years.

Indian Custard Pudding.—By M. E. E. 4 heaping tablespoonfuls of Indian meal, 1 egg, to 1 quart of milk; salt and spice; sweeten to taste. Beat the egg and meal together and pour in the milk, and stir twice while baking. Bake one hour slowly.

Spinach.—Wash the leaves, and boil tender in a very little water, salted slightly; drain dry; chop and return to the pan, seasoning with plenty of butter and a little salt and pepper. Heat a small dish and place the vegetable neatly in the center, smoothing the edges with a spoon or knife. Garnish with cold boiled eggs in slices.

Mint Chow Chow for Roast Lamb.—By "Anna." Take one-third onions to two-thirds cucumbers, add spearmint, green peppers, and mustard, chop finely together, put into a jar, and add strong vinegar and salt; cork it up and in a few days it will be fit for use.

Grape Jelly.—By Aunt Mary. Pick the grapes from the stems, pour on water to nearly cover them, and cook until the skins split open; then put them through a sieve and strain the juice through a flannel bag. Put a pint of juice to a pound of sugar, and boil for fifteen minutes.

Silver Cake.—The whites of eight eggs, 1 cupful of butter, 2 of sugar, 3 of flour, ½ of sweet milk, 1 teaspoonful of cream of tartar, ½ teaspoonful of soda; mix all together, and bake in a moderately heated oven until of a light brown.

BOYS & GIRLS' COLUMNS.

How to Get a Farm.

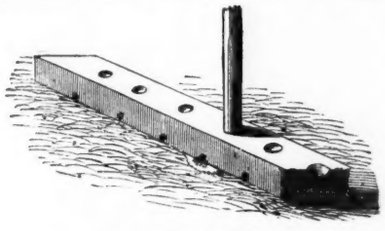
We are often told how to obtain a good education, how to rise in mercantile business, and how quite poor lads have struggled up against many difficulties to high positions; but how can one, with only willing hands, a brave, honest heart, and trust in God, obtain a farm that will not only bring him in a living, but secure to him a comfortable fortune? A Western lad has answered the question by doing this very thing. At sixteen, with a good, common school education, he left his father, in Kentucky, as he had no profitable employment for him. He hired himself to a neighboring farmer, the first year for only seventy dollars. Instead of expending his money upon himself in the form of clothes, or in the gratification of his appetites, he clothed himself decently in cheap, home-made garments, and loaned his money at six per cent interest. Working the next year, with a liberal employer for the times, by diligently laboring morning and evening, he was enabled to add to his education, by three months of schooling, an acquaintance with the higher branches of mathematics, and the rudiments of the Latin language. And at the end of the year, when he was eighteen years of age, he had an additional sum of ninety-six dollars to place at interest. But he had a larger and more productive capital than his accumulated earnings—he had become known in the community for his diligence, his economy, and his honesty, and his services were now in demand at a higher rate of wages. He was made, when nineteen years old, a Collector and a Sheriff of his County. When he entered upon his twentieth year, with his savings and the interest upon previous earnings, in addition to several periods of earnest study, during the winters, which had secured for him a superior education, with a respectable outfit of clothing, with universal respect among the neighbors, and the good will of all that knew him, he found himself the possessor of four hundred and eighty dollars; and at twenty-one he had increased this sum to five hundred and fifty. He now started for the farther West, and in a prairie State secured one hundred and sixty acres of fertile land, for one hundred and fifty dollars. A portion of his remaining capital enabled him to purchase stock and implements for farming. The second year gave him a good crop. His little store of money honestly acquired, his excellent education obtained in hours saved from sleep, his good sense and integrity, soon brought him the confidence and respect of his scattered neighbors. His habits of reading not only gave him an inexhaustible source of pleasure, but his agricultural books and papers aided him in increasing the size and value of his crops, and prepared him for the responsible positions he has been called by his fellow citizens to fill. He is now, although not an old man, a wealthy farmer, with broad, beautiful lands under cultivation around him, with large herds of cattle and flocks of sheep, and with every comfort that money, the respect of others, and an honorable and virtuous life, can afford. When speakers tell you in your schools, boys, that the highest offices in the nation are open to you, you may reasonably doubt of your success in obtaining them, for there are now too many applicants for them, and you may have reason to be thankful that you do not hereafter reach them; but a good farm, a comfortable livelihood, and a virtuous life, are open before you all. You need only your hands, good sense, perseverance, and the blessing of God, to secure them.

Ways of Getting a Living.

Some time ago we illustrated several of the odd ways of getting a living which are to be seen in the streets of New York and other large cities. It is amusing to watch the curious customers who try the lung testers, strength measurers, and the like. Sometimes a man appears with a small galvanic battery, and he may be said to make his living in a shocking manner. He allows the newsboys and others to take hold of the poles of the battery upon the payment of a penny. At first the shocks are very light and rather pleasant, but by a slight change in the instrument the operator is able to increase their strength to such a degree that they become difficult to bear. The trick is very amusing to the bystanders, whatever it may be to the victim. The little picture by the artist, not far from our office, tells its own story.

The Doctor's Talks—About Making a Fire.

It is a long time since I have talked with the boys and girls. Not that I have taken any the less interest in them, for I have occasionally put in articles without designating where they came from. I have so much to do with this, that, and the other, about the paper, that I seldom get time to talk with my young friends. Now I propose to talk to you about making a fire, and, it may be, continue it through several numbers. With us, a fire is so much a matter of course, so easily to be had by the striking of a match, that we little think of the steps that have led up to matches. Now let us suppose that you were shipwrecked on a desert island, how would you start a fire? With matches, of course,—but there are no matches! The few that might have been in your pocket were water-soaked and useless. Flint and steel,—but on desert islands there is neither flint nor steel to be had. When a boy at school, did you never rub a smooth button on the desk, or better, (or worse) one of those smooth seeds from the South which they call "burn stones," and having heated it as much as possible by friction, apply it to the hand of your next neighbor? I know it is a trick,



INDIAN FIRE STICKS.

but I would not give much for a boy who did not know a trick or two. Mind, I do not commend it, but as it is "boy nater," I accept it as a fact, as long as we have boys. Well, now, about fire. I have traveled much among Indians, and they have no matches. Fire is of the greatest importance to them, and when once extinguished, is only renewed with difficulty. I have known Indians to travel hundreds of miles, one or two of their party carrying a lighted and charred Cotton-wood or Poplar stick. The coal on the end of such a brand remains alight a surprising length of time, and when the fire shows signs of giving out, the holders of two sticks put the ends together and blow and coax until the existence of fire is fully established. But I have not told you how those Indians get fire, where none is to be found to start from. Before I describe the process, I will state here, and not in a very precise way, but as something to be remembered, that all motion produces heat, and all heat may be made to produce motion. I put that as what is called an "abstract proposition," but it is simple, and I wish you to remember it. Now to come back to our Indians. How are they, who have no matches, to get a fire? Can you conceive of any other way than that of friction? They cannot, and friction it is of the most severe kind. You read in the books that Indians get a fire by rubbing two pieces of wood together. As a statement, this is true, but the kind of wood and the way in which it is arranged are not mentioned. If you take two common strips of wood and rub one upon another, they will become very hot—hot enough perhaps to light a match, but this is not making a fire without outside help. Let me tell you how I have seen Indians who had no matches get a fire by friction. The Indian uses a piece of very hard wood and one of very soft wood. The hard-wood strip is about two feet long, and two inches, more or less, square. The engraving represents its shape. In what may be called its upper surface there are concavities or hollowed-out spots which by a hole communicate with what is represented in the engraving as the front side. Sand, or any powder, if dropped into these hollows would run out of the hole at the side. The Indian has a stick of this kind long enough for him to hold it conveniently by placing his knees upon it. He then has a very soft stick, usually the flower stem of a Yucca, which he twirls rapidly between his hands, the end of the soft stick resting in one of the cavities of the hard stick upon which his knees rest. The soft stick is revolved with great rapidity by the rubbing of the hands: heat is generated, soon the end of the stick becomes charred, and the charcoal being rubbed off by the motion, drops through the channel in the hard stick that we have mentioned, and a little pile of it is accumulated in front, and is caught upon a leaf. The Indian then redoubles his efforts at twirling the soft stick, and if he spins hard enough, at length a spark drops out upon the little charcoal heap, sets the whole on fire, and he has only to secure and nurse this fire. It seems very easy to tell this, but I have seen many a stout Indian get into a great perspiration over the operation, and have tried it again and again, with the best of savage instruction, with the result of getting a splendid sweat, but never a spark. This is, so far as I know, the most primitive way of getting a fire. We will talk about the other methods at another time.

A Horticultural Doll.

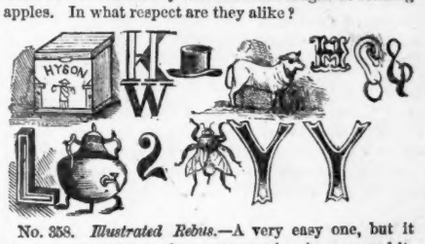
Mr. C. B. Moore, of Brown Co., Ohio, sends an item for the Boys and Girls. He was much amused at seeing several little girls making an odd kind of doll. The starting-point was a hollyhock, which, turned upside down, furnished in its colored part a very nice skirt, and the green part (calyx) a nicely fitting waist. Then for a head what could be better than a grape? But the thing must have arms, so a straw was stuck in, and that the lady might be in full dress, she was furnished with a belt of the skin of a rhubarb stem; the feet are made of beans. We show this as a capital specimen of child's ingenuity. There is more fun in making such things as these than there is in playing with costly toys. We believe in home-made toys, and now what boy or girl has found amusement in some such simple thing as this, and is ready to tell it to all the others of our large family?

New Puzzles to be Answered.

No. 356. *Conundrum.*—Mixed relationships. The questions of relationship given in July last called out an unusual number of answers, and similar questions, one of which we give. The following is sent by G. W. Clemmer, Parksville, Tenn. Two women saw two men coming towards the house. One woman said to the other, here come our fathers, our children's fathers, our children's grandfathers, and our own husbands. What was the relationship?

Enigmas, Riddles, Metagrams, etc.—Quite a number have been sent us, but we do not publish any unless the answer is given, as it is necessary for us to judge of their value before putting them in print. "J. C. W.," "Metagram," and others, will see why their contributions do not appear; besides we do not care for a contribution from any one on any subject who does not wish to sign his or her name.

No. 357. *Picture Conundrum.*—This picture shows an artist at work and a boy who has been caught at stealing apples. In what respect are they alike?



No. 358. *Illustrated Rebus.*—A very easy one, but it gives good advice to the young people who can read it.

[COPYRIGHT SECURED.]

LITTLE MISCHIEF.—DRAWN BY EDWIN FORBES FROM A SKETCH BY THOMAS WORTH.—*Engraved for the American Agriculturist.*

So, Miss Mischief, our artist has caught you! You went out to the barn where you thought no one would see you, to play your mischievous pranks and teaze the old horse. The artist did not tell us where he made the sketch, and we hope that none of *our* boys and girls know where he might have made it. It may for a while seem to be fun to teaze an animal which is so confined that he cannot resent it, but is it right? Is it not unkind to take advantage of the horse's helpless condition and annoy him as "Little Mischief" is doing? Look out, young lady! Horses have good memories and know who treat them kindly or otherwise, almost as well as some human beings do. Old Jack, if he is the sensible horse we take him to be, will some day pay you off for plaguing him. If by and by he should take a fancy to your pretty straw hat and spoil it with a nip, when you are not thinking of any danger, you need not be surprised. It is much better to be good friends with even the animals upon the farm than to earn their ill will. There are many ways in which boys and girls can have plenty of fun without disturbing the comfort of the poor helpless animals.

A few days ago a dog belonging to Rev. C. A. Downs, of Lebanon, N. H., had a slight "onpleasantness" with a woodchuck, and the latter seized him by the cheek and refused to relinquish his hold. With remarkable presence of mind, his dogship repaired to a brook near by, and sousing the woodchuck under, held him there until he was drowned.

The pastor of a popular church, one Sabbath evening, at the Sabbath School concert, said: "Boys, when I heard your beautiful songs to-night I had to work hard to keep my feet still; what do you suppose is the trouble with them?" "Chilblains, sir," said a little six-year-old boy, which, notwithstanding the solemnity of the occasion, set the whole audience in a roar.

At a young ladies' seminary, recently, during an examination in history, one of the most promising pupils was interrogated: "Mary, did Martin Luther die a natural death?" "No," was the reply, "he was excommunicated by a bull."

Answers to Problems and Puzzles.

No. 347. "That same old Coon" needs only to be turned upside down to make it show its face. Conundrum, No. 348.—The beggar was a woman. No. 349.—The picture was that of the man's own son. Rebus No. 350.—Abbreviate (A breve E (which should have been I) 8. Rebus No. 351.—Be above fawning upon persons above you, or oppressing those beneath you. (Bee above fawn in G upon persons above ewe, OR O pressing Those beneath ewe). Answers have been sent by a large number. Owing to some change in our editorial arrangements it may happen that some who have sent answers have failed to receive credit for them. We trust that this accident will not prevent them from trying again. Where correct in one case and wrong in another, we designate the right answer by the number. C. Williams, D. W. Leitzell, L. M. Wright, W. Pulsifer (349), S. P. Heilman, A. D. Riker (347), G. McBride, G. W. Quinby, Jr. (348), Alice Bradstreet, J. M. Dorr (349), J. G. Hertzler (349), C. B. Villet, Alice Warren, C. B. Overinger, L. E. Whitney, G. W. Clemmer, Jonas Bare, W. T. Jolly (348), J. A. Sanford, Bella Allen, W. C. Ellis, Mary M. Skidmore, LeRoy Shepard, Annie S. Budd, Lucy W. Dresser (347), "Ann Easyone," L. H. Reynolds, Willie W. Darrah (request attended to), "Ruralist," W. B. Haines, Ida E. Miller (348), H. Tudor, Frank P. Bankstone, W. W. Maryatt, J. C. Morrow, C. S. Rush, W. J. Burns, Julia A. Sanborn, A. D. Newton (349), F. S. Ingalls, Emma F. Gilchrist, Charlie D. Beck, J. Lehde, C. W. Adamson, H. B. Wade (347), Jas. Carson, Henry Fletcher, Walter Roberts.

OUR YOUNG FOLKS MAGAZINE.

"THE BEST JUVENILE MAGAZINE EVER PUBLISHED IN ANY LAND OR LANGUAGE."

From the September number we make the following extract from Mr. ALDRICH's popular Story—"The Story of a Bad Boy."

HOW WE ASTONISHED THE RIVERMOUTHIANS.

Among the few changes that have taken place in Rivermouth during the past twenty years there is one which I regret. I lament the removal of all those varnished iron cannon which used to do duty as posts at the corners of streets leading from the river. They were quaintly ornamental, each set upon end with a solid shot soldered into its mouth, and gave to that part of the town a picturesqueness very poorly atoned for by the conventional wooden stakes that have deposed them.

These guns ("old sogers" the boys called them) had their story, like everything else in Rivermouth. When that everlasting last war—the war of 1812, I mean—came to an end, all the brigs, schooners, and barks, fitted out at this port as privateers were as eager to get rid of their useless twelve-pounders and swivels as they had previously been to obtain them. Many of the pieces had cost large sums, and now they were little better than so much crude iron,—not so good, in fact, for they were clumsy things to break up and melt over. The government did n't want them; private citizens did n't want them; they were a drug in the market.

But there was one man, ridiculous beyond his generation, who got it into his head that a fortune was to be made out of these same guns. To buy them all, to hold on to them until war was declared again (as he had no doubt it would be in a few months), and then sell out at fabulous prices,—this was the daring idea that addled the pate of Silas Trefethen, "Dealer in E. & W. I. Goods and Groceries," as the faded sign over his shop-door informed the public.

At Trefethen's death his unique collection came under the auctioneer's hammer. Some of the larger guns were sold to the town, and planted at the corners of divers streets; others went off to the iron-foundry; the balance, numbering twelve, were dumped down on a deserted wharf at the foot of Anchor Lane, where, summer after summer, they rested at their ease in the grass and fungi, pelted in autumn by the rain, and annually buried by the winter snow. It is with these twelve guns that our story has to deal.

The wharf where they reposed was shut off from the street by a high fence,—a silent, dreamy old wharf, covered with strange weeds and mosses. On account of its seclusion and the good fishing it afforded, it was much frequented by us boys.

Jack Harris, Charley Marden, Harry Blake, and myself, were fishing off the grass-grown wharf one afternoon, when a thought flashed upon me like an inspiration.

"I say, boys!" I cried, hauling in my line hand over hand, "I've got something!"

"What does it pull like, youngster?" asked Harris, looking down at the taut line and expecting to see a big perch at last.

"O, nothing in the fish way," I returned, laughing; "it's about the old guns."

"What about them?"

"I was thinking what jolly fun it would be to set one of the old sogers on his legs and serve him out a ration of gunpowder."

Up came the three lines in a jiffy. An enterprise better suited to the disposition of my companions could not have been proposed.

In a short time we had one of the smaller cannon over on its back and were busy scraping the green rust from the touch-hole. The mould had spiked the gun so effectually, that for a while we fancied we should have to give up our attempt to resuscitate the old soger.

"A long gimlet would clear it out," said Charley Marden, "if we only had one."

I looked to see if Sailor Ben's flag was flying at the cabin door, for he always took in the colors when he went off fishing.

"When you want to know if the Admiral's abroad, jest cast an eye to the buntin', my heartie," says Sailor Ben.

Sometimes in a jocose mood he called himself the Admiral, and I am sure he deserved to be one. The Admiral's flag was flying, and I soon procured a gimlet from his carefully kept tool-chest.

Before long we had the gun in working order. A newspaper lashed to the end of a lath served as a swab to dust out the bore. Jack Harris blew through the touch-hole and pronounced all clear.

Our first intention was to load and fire a single gun. How feeble and insignificant was such a plan compared to that which now sent the light dancing into our eyes!

"What could we have been thinking of?" cried Jack Harris. "We 'll give 'em a broadside, to be sure, if we die for it!"

We turned to with a will, and before nightfall had nearly half the battery overhauled and ready for service. To keep the artillery dry we stuffed wads of loose hemp into the muzzles, and fitted wooden pegs to the touch-holes.

At recess the next noon the Centipedes met in a corner of the school-yard to talk over the proposed lark. The original projectors, though they would have liked to keep the thing secret, were obliged to make a club matter of it, inasmuch as funds were required for ammunition. There had been no recent drain on the treasury, and the society could well afford to spend a few dollars in so notable an undertaking.

It was unanimously agreed that the plan should be carried out in the handsomest manner, and a subscription to that end was taken on the spot. Several of the Centipedes had n't a cent, excepting the one strung around their necks; others, however, were richer. I chanced to have a dollar, and it went into the cap quicker than lightning. When the club, in view of my munificence, voted to name the guns Bailey's Battery I was prouder than I have ever been since over anything.

The money thus raised, added to that already in the treasury, amounted to nine dollars,—a fortune in those days; but not more than we had use for. This sum was divided into twelve parts, for it would not do for one boy to buy all the powder, nor even for us all to make our purchases at the same place. That would excite suspicion at any time, particularly at a period so remote from the Fourth of July.

There were only three stores in town licensed to sell powder; that gave each store four customers. Not to run the slightest risk of remark, one boy bought his powder on Monday, the next boy on Tuesday, and so on until the requisite quantity was in our possession. This we put into a keg and carefully hid in a dry spot on the wharf.

Who knew anything about fuses? Who could arrange it so the guns would go off one after the other, with an interval of a minute or so between?

Theoretically we knew that a minute-fuse lasted a minute; double the quantity, two minutes; but practically we were at a stand-still. There was but one person who could help us in this extremity,—Sailor Ben. To me was assigned the duty of obtaining what information I could from the ex-gunner, it being left to my discretion whether or not to intrust him with our secret.

So one evening I dropped into the cabin and artfully turned the conversation to fuses in general, and then to particular fuses, but without getting much out of the old boy, who was busy making a twine hammock. Finally I was forced to divulge the whole plot.

The Admiral had a sailor's love for a joke, and entered at once and heartily into our scheme. He volunteered to prepare the fuses himself, and I left the labor in his hands, having bound him by several extraordinary oaths—such as "Hope-I-may-die" and "Shiver-my-timbers"—not to betray us, come what would.

This was Monday evening. On Wednesday the fuses were ready. That night we were to unmuzzle Bailey's Battery.

Directly after twilight set in Phil Adams stole down to the wharf and fixed the fuses to the guns, laying a train of powder from the principal fuse to the fence, through a chink of which I was to drop the match at midnight.

At ten o'clock Rivermouth goes to bed.

At eleven o'clock Rivermouth is as quiet as a country churchyard.

At twelve o'clock there is nothing left with which to compare the stillness that broods over the little seaport.

In the midst of this stillness I arose and glided out of the house like a phantom bent on an evil errand; like a phantom I flitted through the silent street, hardly drawing breath until I knelt down beside the fence at the appointed place.

Pausing a moment for my heart to stop thumping, I lighted the match and shielded it with both hands until it was well under way, and then dropped the blazing splinter on the slender thread of gunpowder.

A noiseless flash instantly followed, and all was dark again. I peeped through the crevice in the fence, and saw the main fuse spitting out sparks like a conjurer. Assured that the train had not failed, I took to my heels, fearful lest the fuse might burn more rapidly than we calculated, and cause an explosion before I could get home. This, luckily, did not happen. There's a special Providence that watches over idiots, drunken men, and boys.

I dodged the ceremony of undressing by plunging into bed, jacket, boots and all. I am not sure I took off my cap; but I know that I had hardly pulled the coverlid over me, when "BOOM!" sounded the first gun of Bailey's Battery.

I lay as still as a mouse. In less than two minutes there was another burst of thunder, and then another. The third gun was a tremendous fellow and fairly shook the house.

The town was waking up. Windows were thrown open here and there, and people called to each other across the streets asking what that firing was for.

"BOOM!" went gun number four.

I sprung out of bed and tore off my jacket, for I heard the Captain feeling his way along the wall to my chamber. I was half undressed by the time he found the knob of the door.

"I say, sir," I cried, "do you hear those guns?"

"Not being deaf, I do," said the Captain, a little tartly,—any reflection on his hearing always nettled him; "but what on earth they are for, I can't conceive. You had better get up and dress yourself."

"I 'm nearly dressed, sir.'

"BOOM! BOOM!"—two of the guns had gone off together.

The door of Miss Abigail's bedroom opened hastily, and that pink of maidenly propriety stepped out into the hall in her nightgown,—the only indecorous thing I ever knew her to do. She held a lighted candle in her hand and looked like a very aged Lady Macbeth.

"O Dan'el, this is dreadful! What do you suppose it means?'

"I really can't suppose," said the Captain, rubbing his ear: "but I guess it 's over now.

"BOOM!" said Bailey's Battery.

Rivermouth was wide awake now, and half the male population were in the streets, running different ways, for the firing seemed to proceed from opposite points of the town. Everybody waylaid everybody else with questions; but as no one knew what was the occasion of the tumult, people who were not usually nervous began to be oppressed by the mystery.

Some thought the town was being bombarded; some thought the world was coming to an end, as the pious and ingenious Mr. Miller had predicted it would; but those who could'nt n't form any theory whatever were the most perplexed.

In the meanwhile Bailey's Battery bellowed away at regular intervals. The greatest confusion reigned everywhere by this time. People with lanterns rushed hither and thither. The town-watch had turned out to a man, and marched off, in admirable order in the wrong direction. Discovering their mistake, they retraced their steps, and got down to the wharf just as the last cannon belched forth its lightning.

The cause of the racket soon transpired. A suspicion that they had been sold, gradually dawned on the Rivermouthians. Many were exceedingly indignant, and declared that no penalty was severe enough for those concerned in such a prank; others—and these were the very people who had been terrified nearly out of their wits—had the assurance to laugh, saying they knew all along it was only a trick.

The town-watch boldly took possession of the ground, and the crowd began to disperse. Knots of gossips lingered here and there near the place, indulging in vain surmises as to who the invisible gunners could be.

There was no more noise that night, but many a timid person lay awake expecting a renewal of the mysterious cannonading. The Oldest Inhabitant refused to go to bed on any terms, but persisted in sitting up in a rocking-chair, with his hat and mittens on, until daybreak.

I thought I should never get to sleep. The moment I drifted off in a doze I fell to laughing and woke myself up. But towards morning slumber overtook me and I had a series of disagreeable dreams, in one of which I was waited upon by the ghost of Silas Trefethen with an exorbitant bill for the use of his guns. In another, I was dragged before a court-martial and sentenced by Sailor Ben, in a frizzled wig, and three-cornered cocked hat, to be shot to death by Bailey's Battery,—a sentence which Sailor Ben was about to execute with his own hand, when I suddenly opened my eyes and found the sunshine lying pleasantly across my face. I tell you I was glad!

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FIELDS, OSGOOD & CO., Publishers, Boston.

Westchester Black-Cap Raspberry.

HAS NOT ITS EQUAL

FOR MARKET OR FAMILY USE.

The earliest of all the Black-Caps, more productive, producing on an average from five to eight quarts per stool, perfectly hardy, and is the best flavored berry yet discovered, having a rich, sprightly flavor, exceedingly pleasant, berries large, and of a handsome jet-black color, with no bloom.

Report of Committee Farmers' Club.

The Westchester Black-Cap Raspberry is a chance Seedling, which originated eight years since in the yard of Levi J. Mabie, of Tarrytown, N. Y. He has cultivated the plant since that time for the better opportunity of testing and fully demonstrating its value. It is one of the strongest growing varieties that we have as yet seen, having ample opportunity of contrasting it side by side with the Doolittle, in various situations and on different soils. We found it exceeded the Doolittle in every respect; canes that we measured were from fifteen to eighteen feet in length, and bearing one hundred and fifty trusses of berries. These canes would certainly produce two quarts of fruit at a picking. Another bush we saw, grown entirely from one stem, was so productive, that although three quarts of ripe fruit were picked from it, nearly eight more were just ripening We were perfectly satisfied that no extra care or cultivation had been given, the plants being grown close to a picket fence, and the canes never having been pruned, they were all of the same size and productiveness. In comparison with the Doolittle it is more productive, and one week earlier; the berries are as large, if not larger, than the Doolittle, and in flavor far superior; flesh firm, seeds small, and, on this account, making it desirable for preserving. It ripens more uniformly, and produces less imperfect fruits. There is no doubt about its being a distinct variety, and, in our opinion, a desirable acquisition to our list of small fruits, either for market or family use. THOMAS CAVANACH,
Chairman Committee from Farmers' Club.

Report of Committee Fruit-Growers' Club.

The Committee appointed by the Fruit-Growers' Club to examine the merits of the Westchester Seedling Black-Cap Raspberry, would report that a visit was made on Saturday, July 3d, to the grounds of the proprietor, L. J. Mabie, Tarrytown, N. Y., where a careful investigation was made of the excellencies claimed for it, and a fair comparison with other varieties. They found it to be exceedingly vigorous, ripening one week earlier than the Doolittle, fully as productive, a much better flavor, berries ripening more uniformly together, and averaging as large, or larger; seeds smaller, and perfectly hardy. We are satisfied that it is a new variety, has received no extra care or culture, and we think will prove a desirable acquisition to our present list of varieties. HENRY T. WILLIAMS, Chairman.

PRICES OF PLANTS.—Per half dozen, by mail, $3; per dozen, by mail, $5; per hundred, $30.

AGENTS WANTED.—All Agents furnished with written authority to sell genuine plants.

☞ Send stamp for Circular. Address,

JOHN L. TRAVIS & FIELDS, Gen'l Agts.,
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Boyden's 30, monstrous berry, extra, 50c. doz.; $2, 100.
Charles Downing, best berry known, 50c. doz.; $1.50, 100.
Nicanor, Peak's Emperor, productive, 50c. doz.; $2.50, 100.
Napoleon III. and Dr. Nicaise, $1, doz.; $3, 100.
Barnes' Mammoth, Romeyn, Green Prolific, 50c. doz.; $1.50, 100.
Jucunda, Agriculturist, Downer's Prolific, Wilson, 30 cts. doz.; $1, 100.

The 12 varieties, 1 doz. each, free by mail, $5.

The following three are the best new berries in Europe: Rubus, monstrous; La Africana, nearly black, extra fine; President Wilder, best of all, 50c. a plant, or $4. doz. Caywood and Ferre's Seedling, two remarkable berries, weighing 1 ounce each, more productive than Wilson, extra plants, $2, doz. Address

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Strawberry Plants.

Boyden's No. 30, Barnes, Charles Downing, Romeyn's Seedling, Jucunda, Lennig's White, Nicanor, Colfax, 50 cts. per dozen; $2 per hundred; $15 per thousand. Agriculturist, Wilson, Triomphe de Gand, 50 cts. per dozen; $1.50 per hundred; $10 per thousand. Address

REISIG & HEXAMER, New Castle, Westchester Co., N. Y.

Versailles Currants.

We offer an extra fine stock of this celebrated Currant at the following rates:

1-year-old, $2 per dozen; $10 per 100; $75 per 1,000.
2-year-old, $3 per dozen; $15 per 100; $100 per 1,000.

Sample sent by mail on receipt of 50c. Send for circular.

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Grape Vines; also choice plants of all varieties of Small Fruits.

We offer for fall trade a large and choice stock of all the leading varieties of grape vines, including Iona, Israella, Delaware, Concord, Hartford Prolific, &c., and the new varieties, Martha and Walter.

We have also a good stock of one, two, and three-year-old vines of the

EUMELAN GRAPE,

which Dr. C. W. Grant esteems to be the most valuable variety ever yet introduced. It is an early, black grape, of first quality, equaling either Delaware or Iona for richness as a table fruit, and makes red wine superior to Norton's Virginia, or any other American grape.

Ripening as early as Hartford Prolific, and being entirely hardy, it can be successfully grown in northern latitudes, and will be of great value everywhere as an early market grape.

Whoever has success with the Concord vine may plant the Eumelan with full assurance that grapes of surpassing excellence may be obtained by using an average degree of skill in cultivation. The Eumelan vines we offer are grown from mature wood taken from the original stock, all of which is under our control, the old vines standing in our own grounds. To insure securing the genuine plants, all parties should send direct to us.

MADISON, Wisconsin, Aug. 3d, 1869.

Messrs. HASBROUCK & BUSHNELL,

Gentlemen: The Eumelan sent me by Dr. Grant is now on its second year's growth, making a good show of fruit, and a masterly growth of wood. I must say, thus far, I have never cared for a vine which more fully "fills the bill." The characteristics generally ascribed to it seem to be fully developed here, and after passing through the severest trial of winter the vine has ever sustained in this locality, it now manifests more vigor than any variety I have ever handled.

Very respectfully, WM. BROOKS.

NORTH EAST, Pa., Aug. 5th, 1869.

Messrs. HASBROUCK & BUSHNELL,

Gents: The two Eumelan vines had of C. W. Grant, in the spring of 1868, have made a good growth, and are entirely healthy. One of the vines set five bunches of fruit this spring. The five hundred Eumelan vines purchased for the South Shore Wine Co. last spring, have grown well, and are doing better than any other vines planted by me, of same age. Respectfully yours,

JOHN E. MOTTIER,
Supt. South Shore Wine Co.

From the thousands of Eumelan vines sent out, the report is in entire harmony with the foregoing. The high rates of advertising forbid our giving more in this journal, but full reports will be given in Circular.

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Pear Trees, one, two, and three years old, of the best Northern and Southern varieties.
Small Fruits in large supply.
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Dealers and planters are invited to examine my stock. Fall price list sent upon application. Address

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STANDARD AND DWARF FRUIT TREES,
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Choice Ornamental Trees and Shrubs, a large stock.

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THE BEST OF ITS SEASON.

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Standards—1-year-old,	$2.00	each,	$18 per doz.
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This new fruit is vouched for by the Hon. M. P. Wilder, President of the Am. Pomological Society; Jas. F. P. Hyde, Esq., President of Mass. Hort. Society; Henry Ward Beecher, and others.

A FINE COLORED PLATE

Will be furnished, gratis, together with a Circular, giving particulars and a full list of testimonials.

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Peach Trees. Peach Trees.

An immense stock of thrifty trees, 4 to 6 feet high, best orchard kinds, at reduced rates.

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AUTUMN OF 1869.

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A very early apple, commanding the highest price in market, a young bearer and productive. Description and price sent upon application to

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Japan Lilies, including the celebrated

LILIUM AURATUM,

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We are expecting early in September a complete assortment of the above, comprising the most desirable varieties of *Hyacinths, Tulips, Polyanthus Narcissus, Jonquils, Crocus, Crown Imperials, Iris, Snow Drops, Ranunculus, Japan* and other Lilies, etc., etc

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A European variety, introduced several years since, which by a careful selection of seeds from the most vigorous shoots, has been wonderfully improved, both in size and quality, in point of which it surpasses all other varieties in cultivation. Specimens were exhibited the past season by Mr. Conover, which were grown alongside the best "Oyster Bay" varieties, and received the same care and treatment, which attained four times the size of that popular variety.

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The experience of another season confirms all that was claimed for this variety when first offered last spring, and it now stands unrivaled in point of size, productiveness, and quality.

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Largest Stock. Warranted Genuine.

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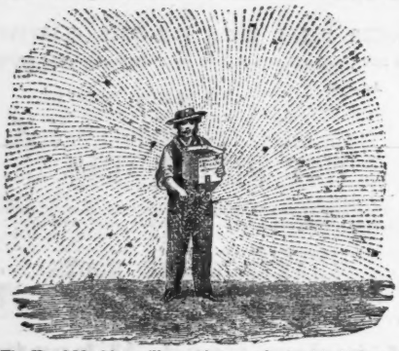
For Sowing all kinds of Grain and Grass Seed.



The Hand Machine will sow 50 acres of wheat in 10 hours; the Horse Power 120 in the same time, and the work is done in the most perfect manner. Hundreds of letters from all parts of the country speak its praise. We append the following from the author of Walks and Talks in the *Agriculturist.*

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Yours truly, JOSEPH HARRIS.

The price of the Hand Sowers is $10.00, and of Power Sowers, $60.00. Send for Circulars.

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Sole Manufacturers.

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We offer for the fall trade the largest and most complete stock of well-grown Nursery articles ever offered in this section. Some articles, as usual, take their places as specialties, among which are the following: *Standard Peaches, Golden Dwarf Peaches, Plums, Damson Plums, Cherries, Currants, Gooseberries,* and *Horse Plum Seedlings.* Of this last, which is the best stock for Plums, we are believed to have the largest lot ever grown in the United States.

Buds of Golden Dwarf Peach and other fruits to spare in abundance. Nurserymen, Dealers, and Planters are invited to correspond for terms. Address (with stamp)

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FOR SALE.—400 acres superior land in Daviess' Co., Ky. 300 acres cleared, very fertile, none richer. Price $25,000. $5,000 cash, balance in 20 equal annual payments, with 6 per cent interest, payable annually. Address at Louisville, Ky., THOS. A. MORGAN.

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This article has now been in use for the past four years, and is daily growing in public favor, being heartily indorsed by all the leading chemists and physicians in the country, also the Water Commissioners of New York, Brooklyn, and Boston. In addition to the plumbing of houses, it is largely used for conveying water from distant springs; for cooling water by means of coils of pipe in refrigerators. It is almost universally used by the makers of Beer and Cider Pumps, and also for Soda Fountains and Mineral Waters; in fact, wherever purity and safety to health are desirable. Water flows through this pipe as pure as if drawn through silver. Our recent improvements in the manufacture insure a most perfect article, which cannot fail to be fully appreciated. The advantages of lead pipe with a *perfectly pure block-tin lining* for the conveyance of water is well understood; it gives the full pliability of the Lead with the pureness of the tin. The resisting power of Block-Tin being about five times greater than lead, we are enabled to furnish a pipe stronger than Lead, one-half its weight, at about the same cost per running foot. For strength, flexibility, durability, facility of bending and making perfectly tight joints, this pipe is especially recommended. To furnish cost per foot give the head or pressure of water and bore of pipe. COLWELLS, SHAW & WILLARD MFG. CO., foot West Twenty-seventh-st., North River, and No. 14 Barclay-st., New York. Also, Manufacturers of Lead Pipe, Sheet Lead, Block Tin Pipe, Sheet Tin, Solder, &c. Circulars sent free.

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From the American Agriculturist.

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THE PRESENT.

AND

THE UNIVERSAL WRINGER.

DOTY'S CLOTHES WASHER, lately much improved, and the new UNIVERSAL CLOTHES WRINGER, with Rowell's Expansion Gear, and the patent "Step" save their cost twice a year by saving clothes, besides shortening the time and lessening the labor of washing nearly one-half.

WHAT IS SAID ABOUT THEM.

"The Rich might do without these Machines, but the poor, who must value time, labor, and the saving of clothes, have to look on them as household necessities."—*Working Farmer.*
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"After a fair trial we give it the preference over all others."—*Iowa Homestead.*
"We do not hesitate to give this the preference."—*American Agriculturist.*

A FAIR OFFER.

You may prove the above statements true by sending the retail price—Washer, $14, Extra Cog-Wheel Wringer,—$3, and we will forward to places where no one is selling, either or both, free of charges. If, after a trial of one month, you are not entirely satisfied, we will REFUND THE MONEY on the return of the machines, freight free.

Large Discount to the Trade everywhere.

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Are grown without clipping or resort to any means to get quantity at the expense of quality, and then are carefully selected. Shall commence filling orders as received about Oct. 15. No charge for packing. At dozen's rate I send by mail, post-paid; will carry safely two weeks, thus to California or Oregon.

Descriptive Circular sent on application.

The Doolittle Raspberry, 50 cts. per dozen; $2.00 per 100; $12.00 per 1,000.

The Garden, the Seneca Black Cap, the Mammoth Cluster, Davidson's Thornless, Philadelphia (red), Clarke (red), and Kittatinny Blackberry, each $1.00 per doz.; $4 per 100. The Garden at $20 per 1,000, and the Seneca at $25 per 1,000. Six of a kind at dozen rate, 50 at 100 rate, and 500 at 1,000 rate.

Asparagus Roots, 1-year-old, $1.00 per 100, by mail. Seventy-five cents by Express.

English Multipliers, or true potato onions, Early Rose, Early Goodrich, and Early York potatoes, by Express, 50 cents per peck.

N. B.—Send Post-office order on Geneva, N. Y., Draft, or register your letter with money. Address

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ORNAMENTAL TREES AND SHRUBS, Roses, Grape Vines, Currants, Gooseberries, and other Small Fruits. Evergreens a speciality. Send for a Catalogue.

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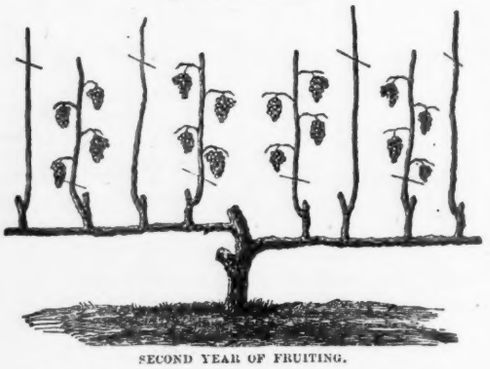

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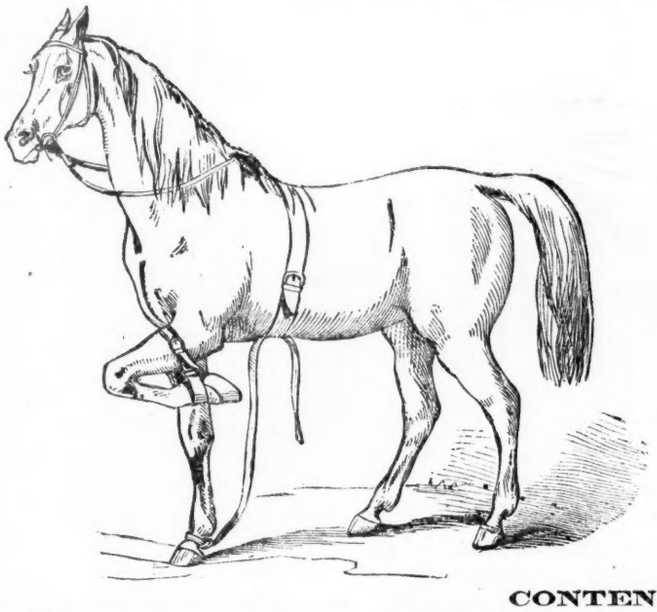

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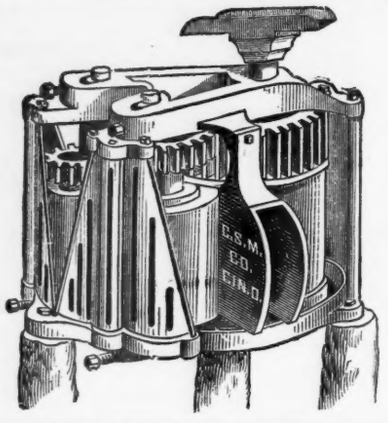

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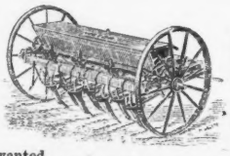

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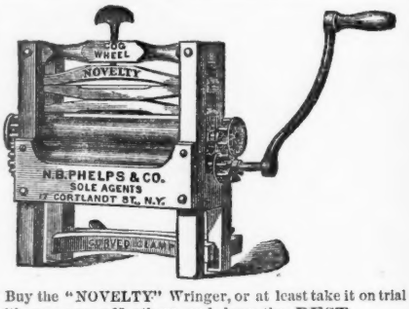

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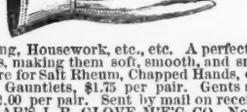

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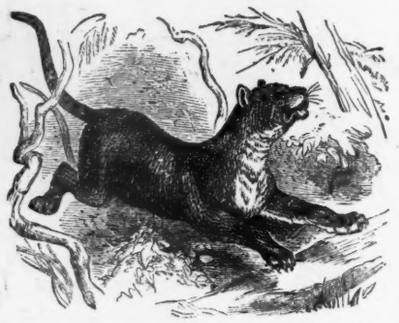

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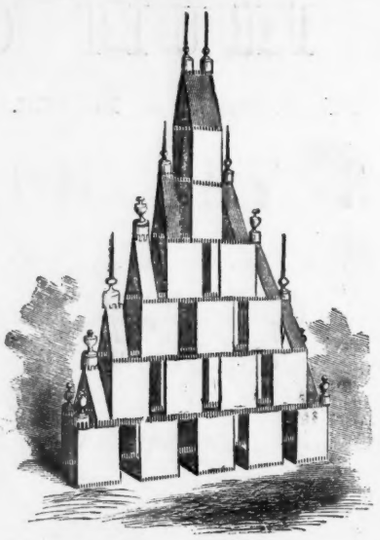

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